structure search from parent


```
=> fil reg
FILE 'REGISTRY' ENTERED AT 17:08:29 ON 12 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:    11 DEC 2002  HIGHEST RN 475975-25-8
DICTIONARY FILE UPDATES:   11 DEC 2002  HIGHEST RN 475975-25-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

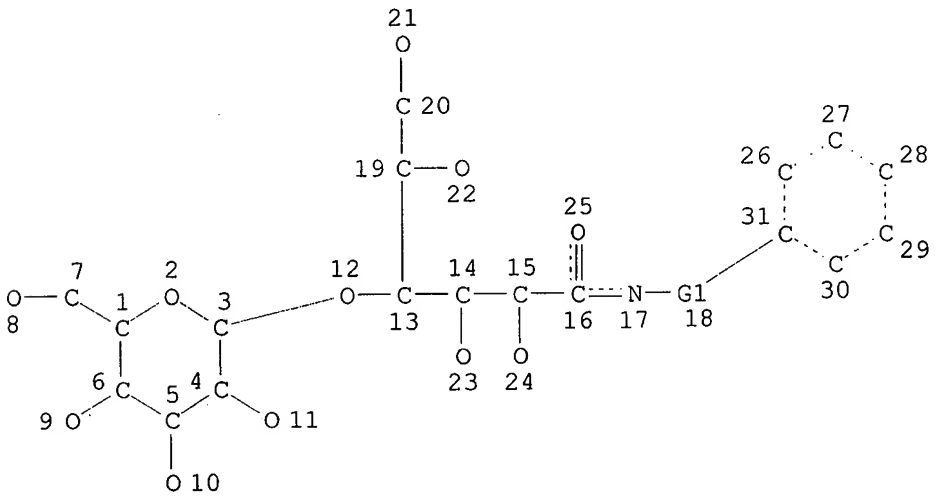
  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d sta que l24
L1              STR
```

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 - 703-308-4498
jan.delaval@uspto.gov




```
REP G1=(0-1) AK
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  31

STEREO ATTRIBUTES: NONE
L8          196 SEA FILE=REGISTRY ABB=ON  PLU=ON  (100466-37-3/BI OR 14257-35-3
                /BI OR 179472-30-1/BI OR 179472-31-2/BI OR 20260-53-1/BI OR
                2592-37-2/BI OR 26830-95-5/BI OR 269395-52-0/BI OR 269734-48-7/
                BI OR 269734-49-8/BI OR 269735-15-1/BI OR 269735-16-2/BI OR
                269735-18-4/BI OR 269735-32-2/BI OR 269735-41-3/BI OR 269735-59
                -3/BI OR 269735-66-2/BI OR 269735-84-4/BI OR 3360-45-0/BI OR
                35661-39-3/BI OR 55912-20-4/BI OR 611-95-0/BI OR 89939-36-6/BI
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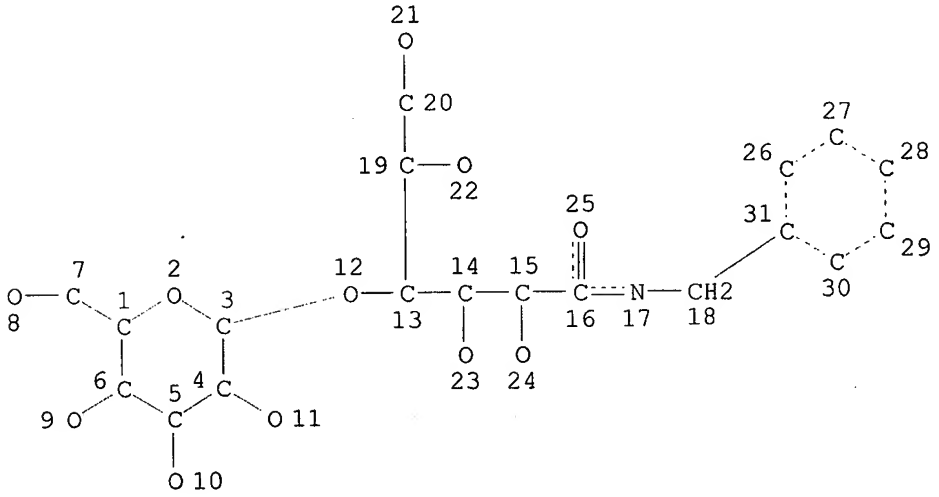
OR 100-07-2/BI OR 101-48-4/BI OR 103-80-0/BI OR 10313-60-7/BI
OR 1125-88-8/BI OR 122-01-0/BI OR 14618-78-1/BI OR 1501-26-4/BI
OR 1711-02-0/BI OR 1711-10-0/BI OR 1741-41-9/BI OR 177164-94-2
/BI OR 177164-95-3/BI OR 179329-87-4/BI OR 18496-54-3/BI OR
1871-76-7/BI OR 2251-65-2/BI OR 269734-50-1/BI OR 269734-51-2/B
I OR 269734-52-3/BI OR 269734-53-4/BI OR 269734-54-5/BI OR
269734-55-6/BI OR 269734-56-7/BI OR 269734-57-8/BI OR 269734-58
-9/BI OR 269734-59-0/BI OR 269734-60-3/BI OR 269734-61-4/BI OR
269734-62-5/BI OR 269734-63-6/BI OR 269734-64-7/BI OR 269734-65
-8/BI OR 269734-66-9/BI OR 269734-67-0/BI OR 269734-68-1/BI OR
269734-69-2/BI OR 269734-70-5/BI OR 269734-71-6/BI OR 269734-72
-7/BI OR 269734-73-8/BI OR 269734-74-9/BI OR 269734-75-0/BI OR
269734-76-1/BI OR 269734-77-2/BI OR 269734-78-3/BI OR 269734-79
-4/BI OR 269734-80-7/BI OR 269734-81-8/BI OR 269734-82-9/BI OR
269734-83-0/BI OR 269734-84-1/BI OR 269734-85-2/BI OR 269734-86
-3/BI OR 269734-87-4/BI OR 269734-88-5/BI OR 269734-89-6/BI OR
269734-90-9/BI OR 269734-91-0/BI OR 269734-92-1/BI OR 269734-93
-2/BI OR 269734-94-3/BI OR 269734-95-4/BI OR 269734-96-5/BI OR
269734-97-6/BI OR 269734-98-7/BI OR 269734-99-8/BI OR 269735-00
-4/BI OR 269735-01-5/BI OR 269735-02-6/BI OR 269735-03-7/BI OR
269735-04-8/BI OR 269735-05-9/BI OR 269735-06-0/BI OR 269735-07
-1/BI OR 269735-08-2/BI OR 269735-09-3/BI OR 269735-10-6/BI OR
269735-11

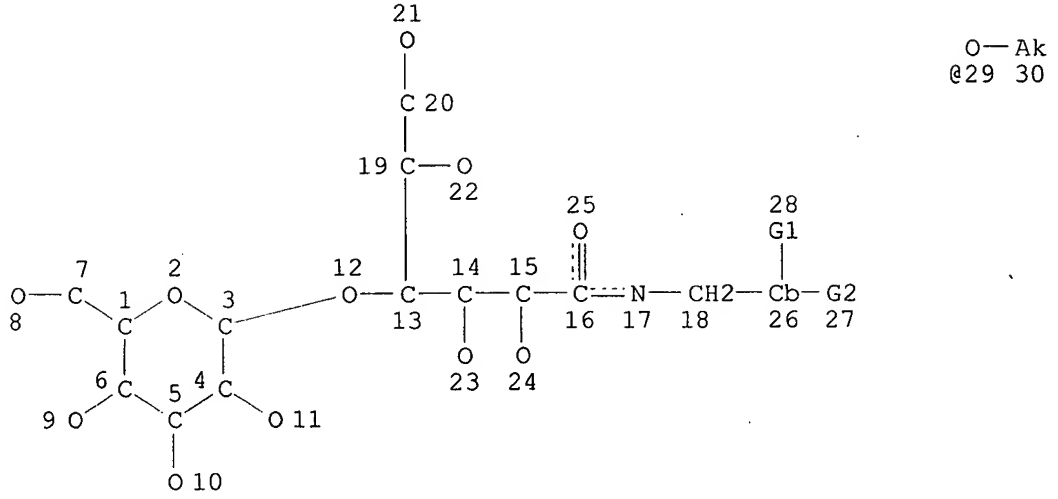
L12 81 SEA FILE=REGISTRY SSS FUL L1
L13 10 SEA FILE=REGISTRY ABB=ON PLU=ON L8 AND L12
L14 STR

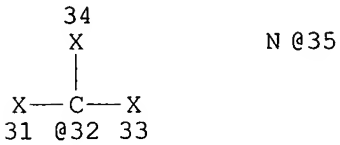


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC 26
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE
L15 74 SEA FILE=REGISTRY SUB=L12 SSS FUL L14
L16 64 SEA FILE=REGISTRY ABB=ON PLU=ON L15 NOT L13
L17 26 SEA FILE=REGISTRY ABB=ON PLU=ON L16 AND NC>=2
L18 38 SEA FILE=REGISTRY ABB=ON PLU=ON L16 NOT L17
L19 STR





VAR G1=H/CN/NO2/X/32/AK/29
VAR G2=H/35
NODE ATTRIBUTES:
CONNECT IS M1 RC AT 8
CONNECT IS M1 RC AT 9
CONNECT IS M1 RC AT 10
CONNECT IS M1 RC AT 11
CONNECT IS M1 RC AT 21
CONNECT IS M1 RC AT 22
CONNECT IS M1 RC AT 23
CONNECT IS M1 RC AT 24
CONNECT IS M1 RC AT 35
DEFAULT MLEVEL IS ATOM
GGCAT IS UNS AT 26
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE
L21 55 SEA FILE=REGISTRY SUB=L12 CSS FUL L19
L22 30 SEA FILE=REGISTRY ABB=ON PLU=ON L21 NOT L17
L23 20 SEA FILE=REGISTRY ABB=ON PLU=ON L18 AND L22
L24 14 SEA FILE=REGISTRY ABB=ON PLU=ON L23 AND NR<=2

=> d his

(FILE 'HOME' ENTERED AT 16:33:53 ON 12 DEC 2002)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 16:34:03 ON 12 DEC 2002
L1 STR
L2 4 S L1

```
     FILE 'HCAPLUS' ENTERED AT 16:36:17 ON 12 DEC 2002
                  E MAYER S/AU
L3             76 S E3
L4             21 S E30-E32
L5             97 S L3,L4
L6              6 S L5 AND (CARBOHYDRAT? OR BENZEN?)/SC,SX
L7              4 S L6 AND SMOOTH MUSCLE CELL PROLIFERATION
                  SEL RN

     FILE 'REGISTRY' ENTERED AT 16:37:32 ON 12 DEC 2002
L8            196 S E1-E196
L9            153 S L8 AND OC5/ES AND 46.150.18/RID
L10               STR L1
L11             3 S L10
L12            81 S L1 FUL
                  SAV L12 JOS444736/A
L13            10 S L8 AND L12
L14               STR L10
L15            74 S L14 FUL SUB=L12
                  SAV L15 JOS444736A/A
L16            64 S L15 NOT L13
L17            26 S L16 AND NC>=2
L18            38 S L16 NOT L17
L19               STR L14
L20             3 S L19 CSS SAM SUB=L12
L21            55 S L19 CSS FUL SUB=L12
                  SAV L21 JOS444736B/A
L22            30 S L21 NOT L17
L23            20 S L18 AND L22
L24            14 S L23 AND NR<=2
L25            16 S L22 NOT L24
L26             6 S L25 NOT L13
L27            24 S L13,L24
                  SAV L27 JOS444736C/A
L28            57 S L12 NOT L27
L29             7 S L28 AND (C57H100N2O16 OR C34H44N2O21S OR C61H108N2O16 OR C53H

     FILE 'HCAOLD' ENTERED AT 17:03:22 ON 12 DEC 2002
L30             2 S L27 OR L29
                  SEL AN
                  EDIT /AN /OREF

     FILE 'HCAPLUS' ENTERED AT 17:03:51 ON 12 DEC 2002
L31             3 S E197-E198
                  S L31 NOT 60:3518/CN

     FILE 'REGISTRY' ENTERED AT 17:04:13 ON 12 DEC 2002

     FILE 'HCAPLUS' ENTERED AT 17:04:14 ON 12 DEC 2002
L32             2 S L31 NOT 60:3518/DN
L33            86 S L27 OR L29
L34            82 S L27
L35             4 S L29
L36             1 S L34 AND L5
L37             1 S L34 AND (AHP OR A()H()P OR AM HOME PROD OR AMERICAN HOME PROD
L38             1 S L36,L37
L39            59 S L33 AND (PD<=19981124 OR PRD<=19981124 OR AD<=19981124)
L40            16 S L39 AND P/DT
L41            43 S L39 NOT L40
L42            16 S L38,L40
                  SEL HIT RN L42
```

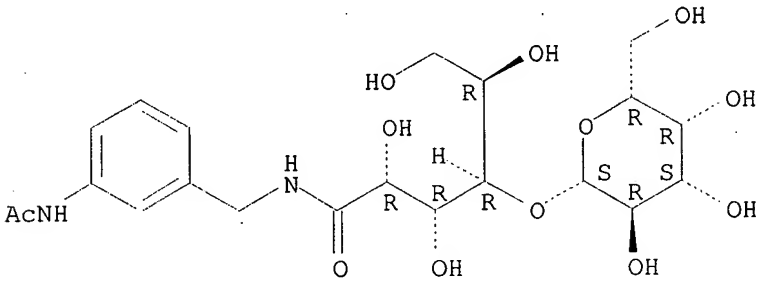
FILE 'REGISTRY' ENTERED AT 17:06:55 ON 12 DEC 2002
L43 20 S E199-E218

FILE 'REGISTRY' ENTERED AT 17:08:29 ON 12 DEC 2002

=> d l27 ide can tot

L27 ANSWER 1 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-42-6** REGISTRY
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C21 H32 N2 O12
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



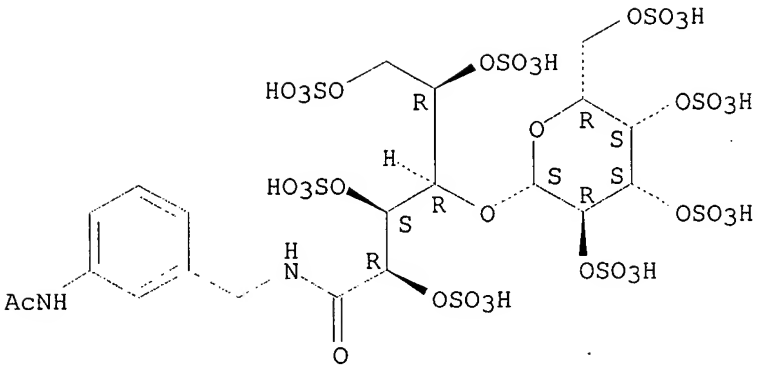
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 APP

L27 ANSWER 2 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-41-5** REGISTRY
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-(2,3,4,6-tetra-O-sulfo-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetrakis(hydrogen sulfate), octasodium salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C21 H32 N2 O36 S8 . 8 Na
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



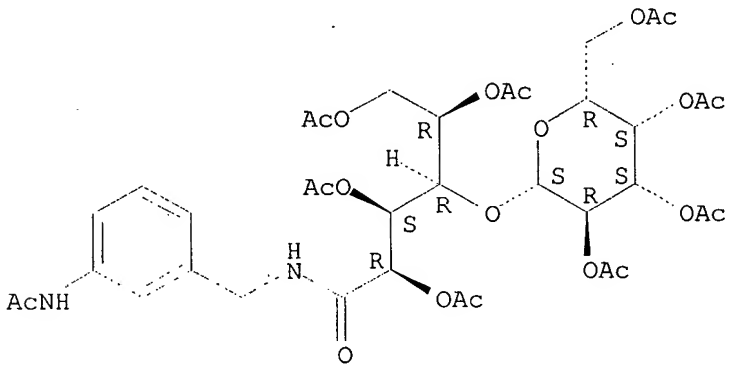
●8 Na

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 3 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-40-4** REGISTRY
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C37 H48 N2 O20
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

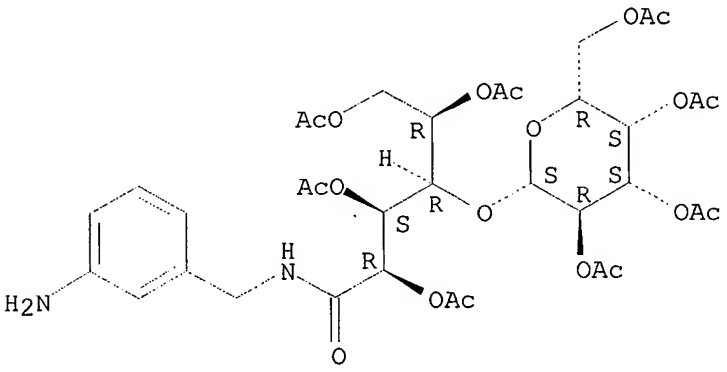
1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 4 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-39-1** REGISTRY
CN D-Gluconamide, N-[(3-aminophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-

.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H46 N2 O19
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



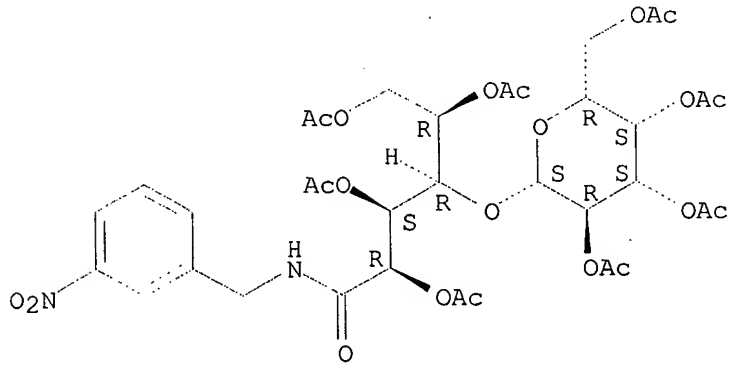
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 5 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-38-0** REGISTRY
CN D-Gluconamide, N-[(3-nitrophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-
.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H44 N2 O21
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



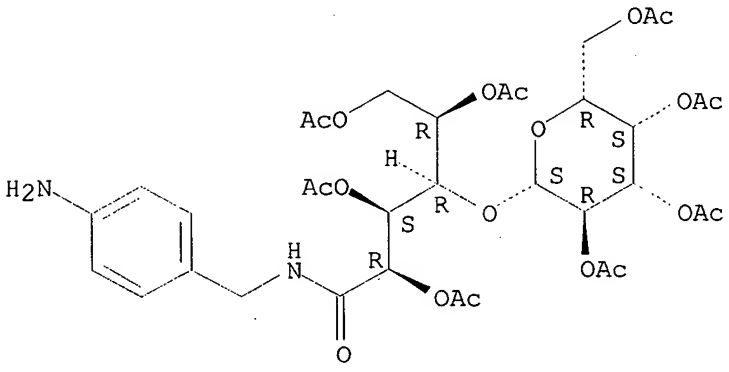
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 6 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-37-9** REGISTRY
CN D-Gluconamide, N-[(4-aminophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H46 N2 O19
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



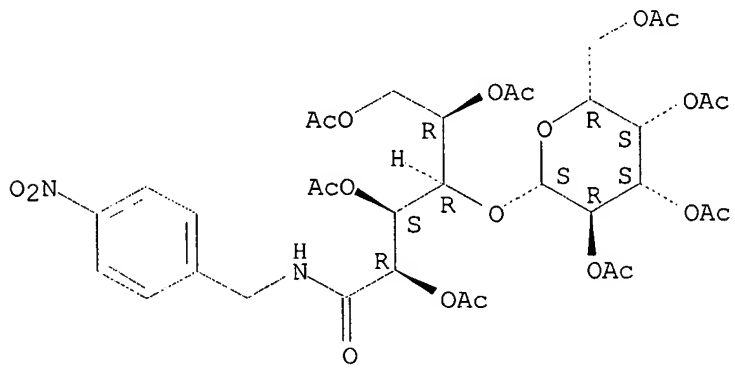
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 7 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-36-8** REGISTRY
CN D-Gluconamide, N-[(4-nitrophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H44 N2 O21
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



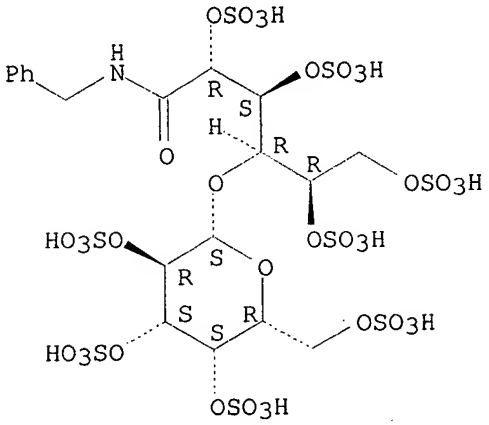
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 8 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-35-7** REGISTRY
CN D-Gluconamide, N-(phenylmethyl)-4-O-(2,3,4,6-tetra-O-sulfo-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetrakis(hydrogen sulfate), octasodium salt (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C19 H29 N O35 S8 . 8 Na
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



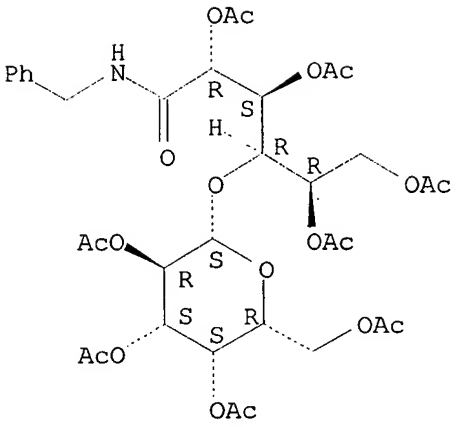
●8 Na

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 app

L27 ANSWER 9 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-34-6** REGISTRY
CN D-Gluconamide, N-(phenylmethyl)-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H45 N O19
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



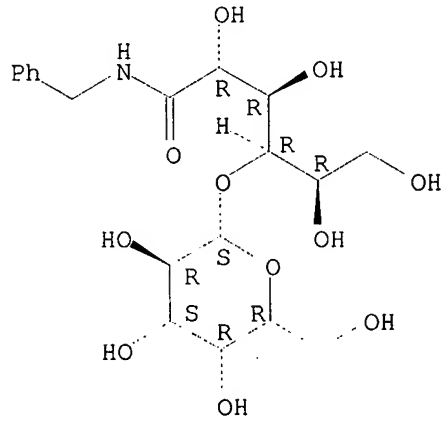
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 apr

L27 ANSWER 10 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN **270069-33-5** REGISTRY
CN D-Gluconamide, 4-O-.beta.-D-galactopyranosyl-N-(phenylmethyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C19 H29 N O11
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:347846 apr

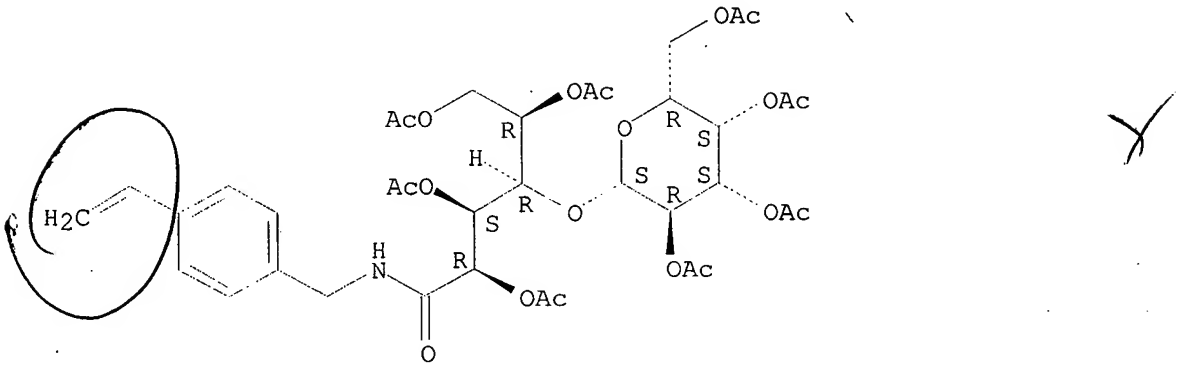
L27 ANSWER 11 OF 24 REGISTRY COPYRIGHT 2002 ACS

RN 201863-24-3 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-(2,3,4,5-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C37 H47 N O19)x
CI PMS
PCT Polyether, Polyether formed, Polystyrene
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 201863-22-1
CMF C37 H47 N O19

Absolute stereochemistry.



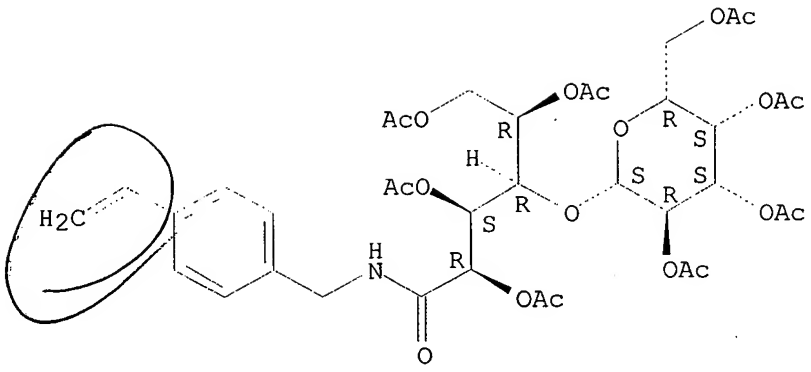
2 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 129:331108

REFERENCE 2: 128:128334

L27 ANSWER 12 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 201863-22-1 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C37 H47 N O19
CI COM
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

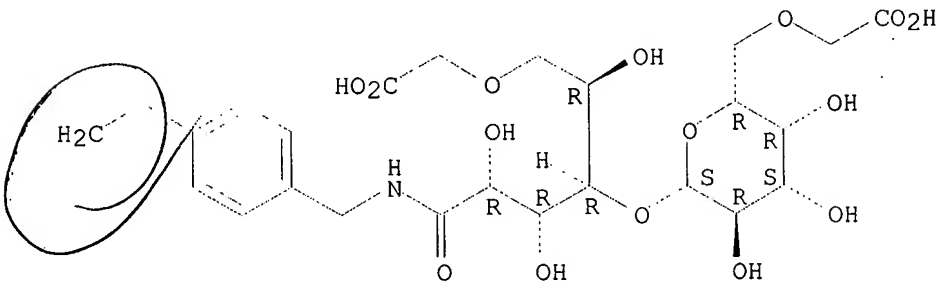
REFERENCE 1: 128:128334

L27 ANSWER 13 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 185826-19-1 REGISTRY
CN D-Gluconamide, 6-O-(carboxymethyl)-4-O-[6-O-(carboxymethyl)-.beta.-D-galactopyranosyl]-N-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C25 H35 N O15)x
CI PMS
PCT Polyester, Polyester formed, Polyether, Polyether formed, Polystyrene
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 185826-18-0
CMF C25 H35 N O15

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

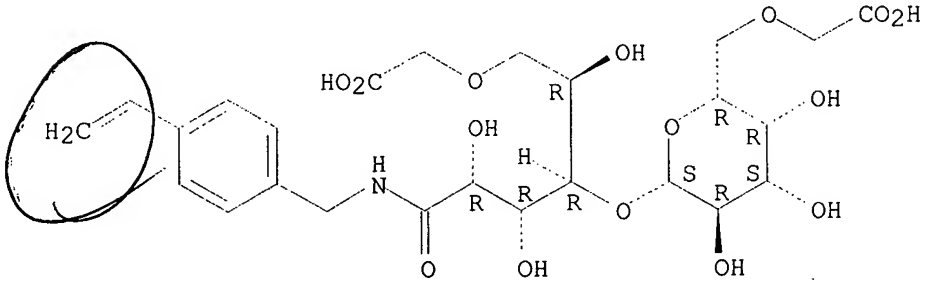
REFERENCE 1: 126:115419

REFERENCE 2: 126:104366

L27 ANSWER 14 OF 24 REGISTRY COPYRIGHT 2002 ACS

RN 185826-18-0 REGISTRY
CN D-Gluconamide, 6-O-(carboxymethyl)-4-O-[6-O-(carboxymethyl)-.beta.-D-galactopyranosyl]-N-[(4-ethenylphenyl)methyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C25 H35 N O15
CI COM
SR CA

Absolute stereochemistry.



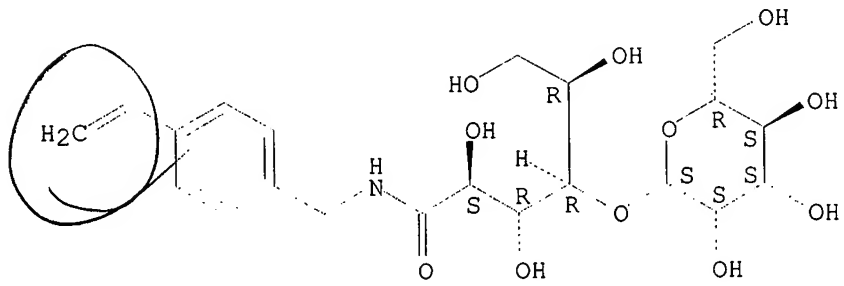
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L27 ANSWER 15 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 184241-82-5 REGISTRY
CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-mannopyranosyl-, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 186026-75-5
MF (C21 H31 N O11)x
CI PMS
PCT Polystyrene
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 184241-81-4
CMF C21 H31 N O11

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES IN FILE CAPLUS (1962 TO DATE)

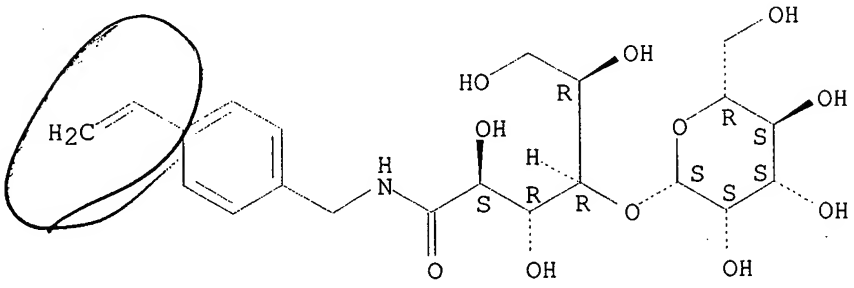
REFERENCE 1: 126:115419

REFERENCE 2: 126:101463

REFERENCE 3: 126:31581

L27 ANSWER 16 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 184241-81-4 REGISTRY
CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-mannopyranosyl-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C21 H31 N O11
CI COM
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

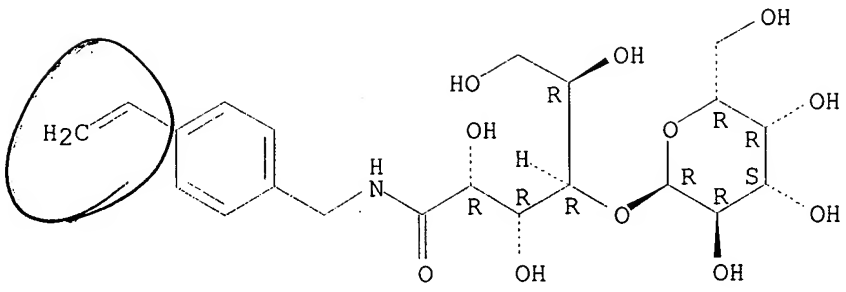
REFERENCE 1: 126:31581

L27 ANSWER 17 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 148388-70-9 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-galactopyranosyl-
, homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C21 H31 N O11)x
CI PMS
PCT Polystyrene
SR CA
LC STN Files: CA, CAPLUS

CM 1

CRN 148388-69-6
CMF C21 H31 N O11

Absolute stereochemistry.



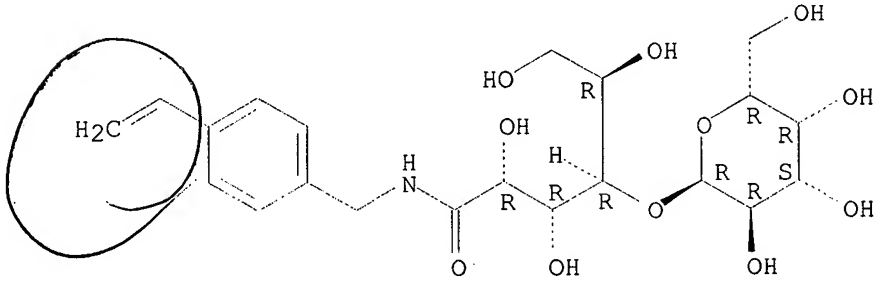
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 134:152490

REFERENCE 2: 119:55723

L27 ANSWER 18 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 148388-69-6 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-galactopyranosyl-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C21 H31 N O11
CI COM
SR CA

Absolute stereochemistry.



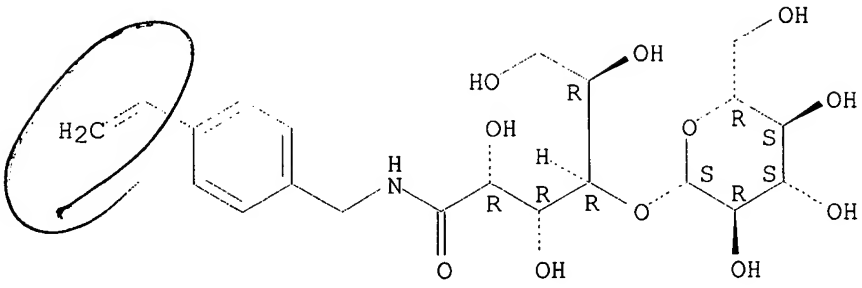
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L27 ANSWER 19 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 118085-68-0 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-,
homopolymer (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF (C21 H31 N O11)x
CI PMS
PCT Polystyrene
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



12 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 134:271138

REFERENCE 2: 134:256706

REFERENCE 3: 127:181003

REFERENCE 4: 126:104366

REFERENCE 5: 126:37058

REFERENCE 6: 124:81382

REFERENCE 7: 119:55723

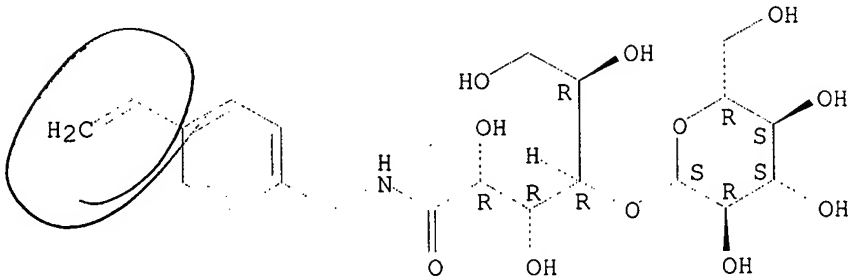
REFERENCE 8: 114:214500

REFERENCE 9: 114:202993

REFERENCE 10: 112:215163

L27 ANSWER 20 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 118085-67-9 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 186383-31-3
MF C21 H31 N O11
CI COM
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 133:271401

REFERENCE 2: 119:55723

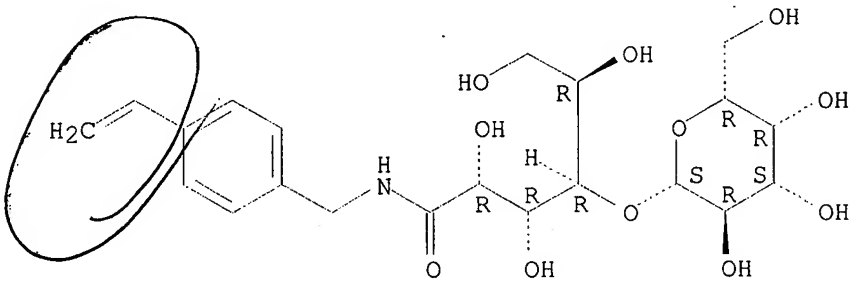
REFERENCE 3: 110:131516

L27 ANSWER 21 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 96910-25-7 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)
OTHER NAMES:
CN PVLA
FS STEREOSEARCH
DR 162516-01-0, 122056-19-3, 150326-32-2, 186026-73-3
MF (C21 H31 N O11)x
CI PMS, COM
PCT Polystyrene
LC STN Files: BIOBUSINESS, CA, CAPLUS, MEDLINE, PROMT, TOXCENTER

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



68 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
68 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:227103

REFERENCE 2: 137:206277

REFERENCE 3: 137:145331

REFERENCE 4: 137:59780

REFERENCE 5: 137:37560

REFERENCE 6: 136:406794

REFERENCE 7: 135:317496

REFERENCE 8: 135:224638

REFERENCE 9: 135:167369

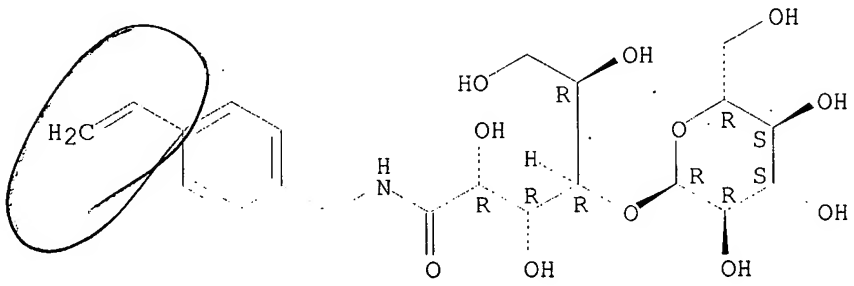
REFERENCE 10: 135:66112

L27 ANSWER 22 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 96910-24-6 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)
OTHER NAMES:
CN PVMA
FS STEREOSEARCH
DR 186026-74-4
MF (C21 H31 N O11)x
CI PMS
PCT Polystyrene
LC STN Files: CA, CAPLUS

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.



15 REFERENCES IN FILE CA (1962 TO DATE)
15 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 135:317496

REFERENCE 2: 134:233744

REFERENCE 3: 134:152490

REFERENCE 4: 133:292412

REFERENCE 5: 126:115419

REFERENCE 6: 126:104366

REFERENCE 7: 126:101463

REFERENCE 8: 114:214500

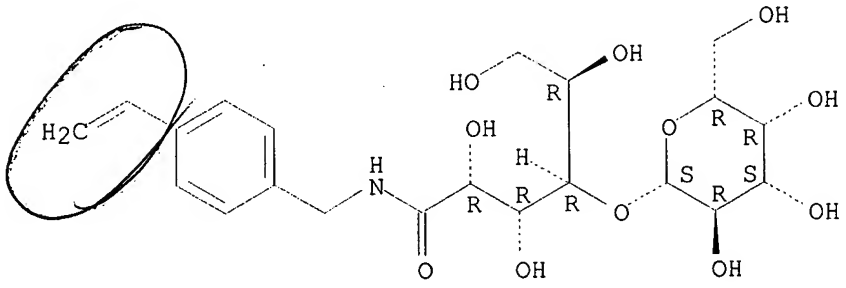
REFERENCE 9: 114:202993

REFERENCE 10: 113:218182

L27 ANSWER 23 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 96886-53-2 REGISTRY

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 162516-00-9, 122056-18-2, 150326-31-1
MF C21 H31 N O11
CI COM
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

13 REFERENCES IN FILE CA (1962 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
13 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 133:271401

REFERENCE 2: 131:59094

REFERENCE 3: 130:297070

REFERENCE 4: 130:172935

REFERENCE 5: 128:235131

REFERENCE 6: 128:128334

REFERENCE 7: 126:129003

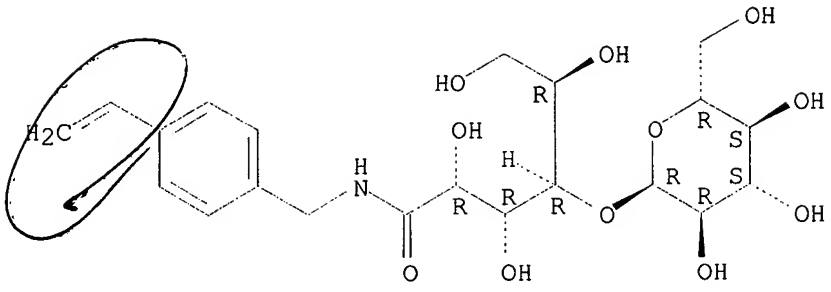
REFERENCE 8: 124:81382

REFERENCE 9: 123:286977

REFERENCE 10: 121:10094

L27 ANSWER 24 OF 24 REGISTRY COPYRIGHT 2002 ACS
RN 96886-52-1 REGISTRY
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C21 H31 N O11
CI COM
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 133:271401

REFERENCE 2: 126:129003

REFERENCE 3: 107:193184

REFERENCE 4: 106:3373

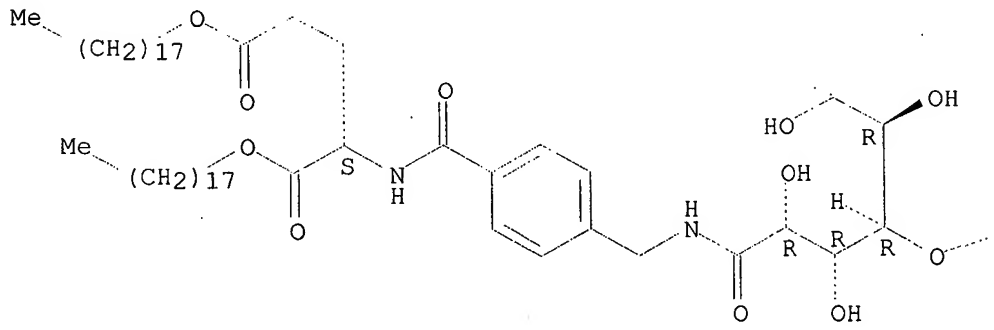
REFERENCE 5: 103:6784

=> d ide can tot 129

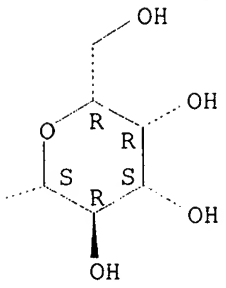
L29 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 173543-58-3 REGISTRY
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C61 H108 N2 O16**
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



2 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

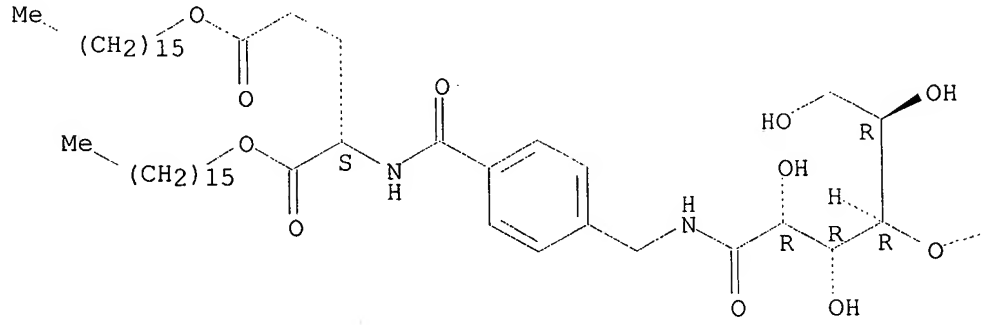
REFERENCE 1: 126:8443

REFERENCE 2: 124:146682

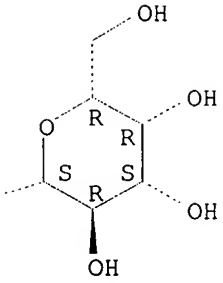
L29 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 173543-57-2 REGISTRY
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C57 H100 N2 O16**
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



2 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

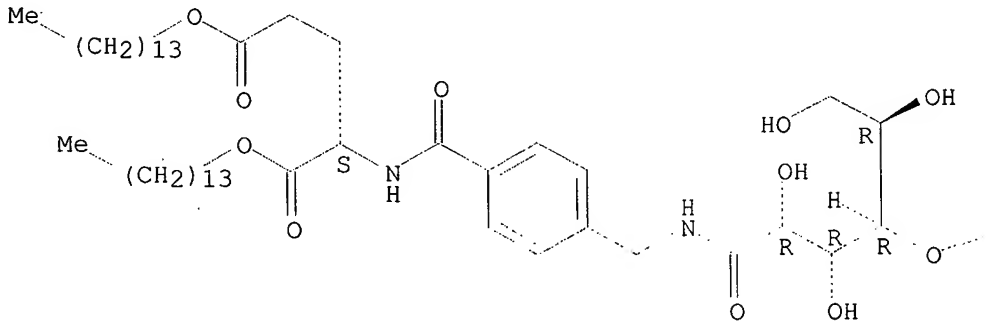
REFERENCE 1: 126:8443

REFERENCE 2: 124:146682

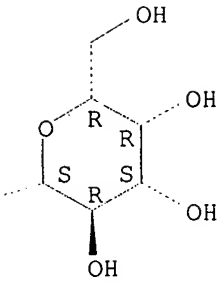
L29 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 173543-56-1 REGISTRY
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C53 H92 N2 O16**
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



2 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

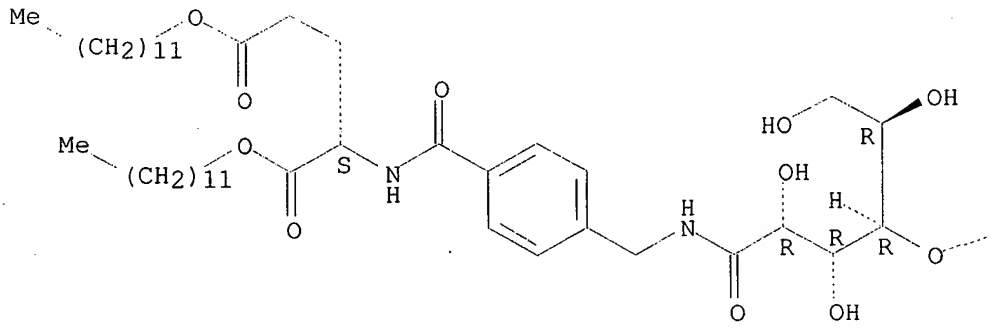
REFERENCE 1: 126:8443

REFERENCE 2: 124:146682

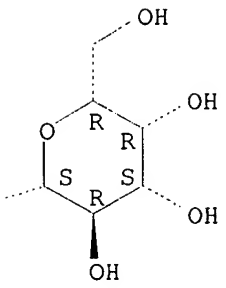
L29 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 173543-55-0 REGISTRY
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C49 H84 N2 O16**
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



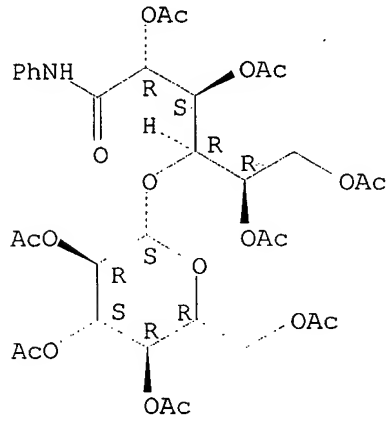
2 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 126:8443

REFERENCE 2: 124:146682

L29 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 107801-56-9 REGISTRY
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C34 H43 N O19**
SR CAOLD
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

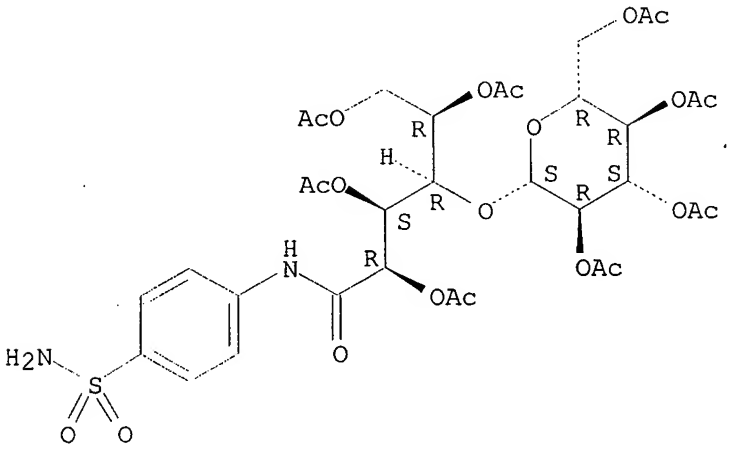
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 60:3522

REFERENCE 2: 59:28779

L29 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 97573-30-3 REGISTRY
CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)
FS STEREOSEARCH
MF **C34 H44 N2 O21 S**
SR CAOLD
LC STN Files: CA, CAOLD, CAPLUS

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

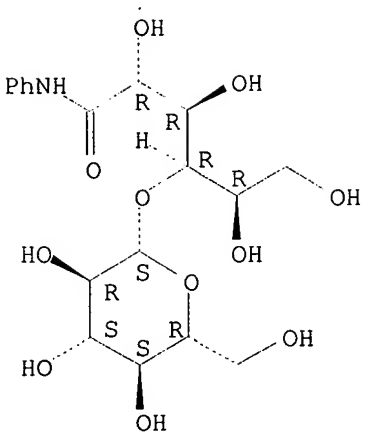
2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 60:3522

REFERENCE 2: 59:28779

L29 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2002 ACS
RN 25122-99-0 REGISTRY
CN D-Gluconamide, 4-O-.beta.-D-glucopyranosyl-N-phenyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN Cellobionanilide
FS STEREOSEARCH
MF **C18 H27 N O11**

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

=> fil hcaold
FILE 'HCAOLD' ENTERED AT 17:09:23 ON 12 DEC 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

PRE-1967 CHEMICAL ABSTRACTS FILE WITH HOUR-BASED PRICING
FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

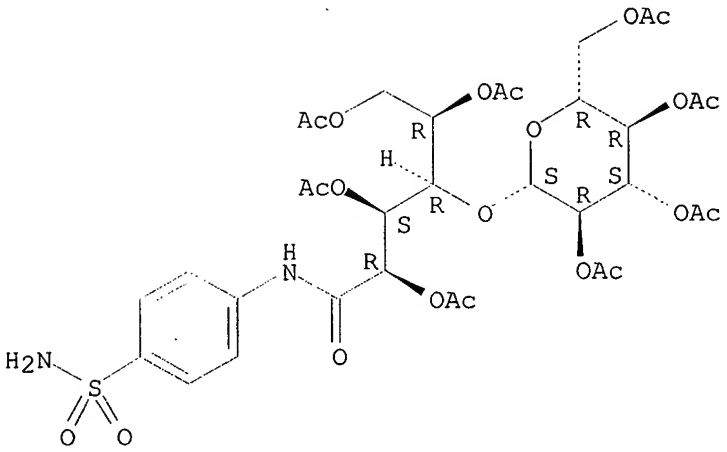
This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> d l30 all hitstr tot

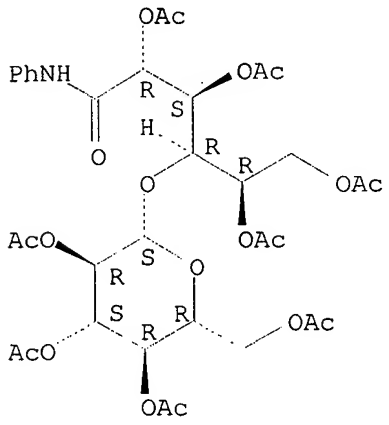
L30 ANSWER 1 OF 2 HCAOLD COPYRIGHT 2002 ACS
AN CA60:644b CAOLD
TI location of the ring C hydroxyl group in fusidic acid
AU Arigoni, Duilio; Daehne, W. v.; Godtfredsen, W. O.; Marquet, A.; Melera, A.
IT 4779-72-0 4959-41-5 5160-18-9 5433-69-2 7356-85-6 11031-88-2
11031-92-8 24909-50-0 39765-41-8 45292-65-7 88893-08-7 91738-90-8
91839-97-3 93150-67-5 93150-68-6 93218-70-3 95132-99-3 95809-22-6
95809-23-7 **97573-30-3** 99786-16-0 100977-53-5 102900-47-0
105001-04-5 105067-88-7 105615-48-3 106822-41-7 107380-53-0 107655-48-1
107781-67-9 **107801-56-9** 107983-56-2 108189-39-5 108192-50-3
108266-57-5
IT **97573-30-3 107801-56-9**
RN 97573-30-3 HCAOLD
CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



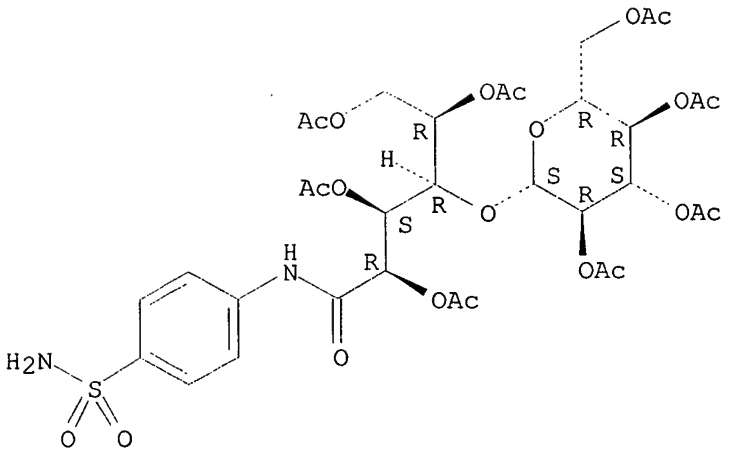
RN 107801-56-9 HCAOLD
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



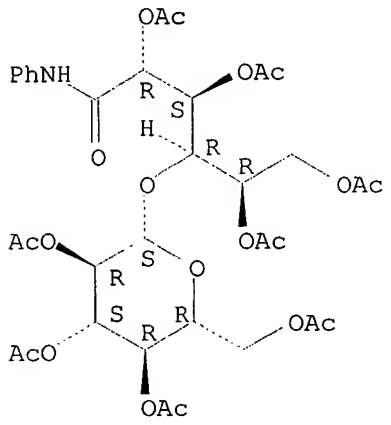
L30 ANSWER 2 OF 2 HCAOLD COPYRIGHT 2002 ACS
AN CA59:5248g CAOLD
TI derivs. of aldonic and aldaric acids
AU Bognar, Rezso; Farkas, I.; Szabo, I. F.; Szabo, G. D.
IT 5160-18-9 5433-69-2 7356-85-6 24758-64-3 24909-50-0 45292-65-7
88893-08-7 91738-90-8 91839-97-3 93150-67-5 93150-68-6 93218-70-3
95132-99-3 95809-22-6 95809-23-7 **97573-30-3** 99786-16-0
100977-53-5 105001-04-5 105067-88-7 106822-41-7 **107801-56-9**
IT **97573-30-3 107801-56-9**
RN 97573-30-3 HCAOLD
CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 107801-56-9 HCAOLD
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 17:09:45 ON 12 DEC 2002
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FILE COVERS 1907 - 12 Dec 2002 VOL 137 ISS 24
FILE LAST UPDATED: 11 Dec 2002 (20021211/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot l32

L32 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN 1964:3519 HCAPLUS
DN 60:3519
OREF 60:**644b-e**
TI Location of the ring C hydroxyl group in fusidic acid
AU Arigoni, D.; von Daehne, W.; Godtfredsen, W. O.; Marquet, Andree; Melera, A.
CS Eidg. Tech. Hochschule, Zuerich, Switz.
SO Experientia (1963), 19(10), 521-2
DT Journal
LA English
CC 42 (Steroids)
GI For diagram(s), see printed CA Issue.
AB cf. CA 58, 1505b. By the double irradiation technique (Freeman and Whiffin, CA 56, 11096c), it could be shown that in the nuclear magnetic resonance spectrum of dihydrofusidic acid Me ester there is no spin-spin interaction between the protons on the C atoms hearing OH groups (.delta. = 3.80 and 4.40) and the C-13 proton (.delta. = 3.02). Dehydration of 16-deacetyldihydrofusidic acid lactone 3-acetate (I), m. 183-4.degree., .lambda. (EtOH) 223 m.mu. (.epsilon. 14,000), [.alpha.]D 44.degree. (CHCl3), with SOCl2-C5H5N at -20.degree. gave II, m. 143-4.degree., .lambda. (EtOH) 221 m.mu. (.epsilon. 15,500), [.alpha.]D 26.degree. (CHCl3), contg. only 1 olefinic proton (signal at .delta. = 5.50), having the same chromophore as I. CrO3 oxidn. of I gave the corresponding ketone (III), m. 153-4.degree., .lambda. (EtOH) 222 m.mu. (.epsilon. 13,800), [.alpha.]D 113.degree. (CHCl3). Dehydrogenation of III with SeO2 in 99:1 tert-BuOH-AcOH gave IV, m. 188-9.degree., .lambda. (EtOH) 280 m.mu. (.epsilon. 17,500), [.alpha.]D -358.degree. (CHCl3). From these results and from previous expts., fusidic acid had the revised constitution V.
IT Spectra, visible and ultraviolet
(of fusidic acid derivs.)
IT Nuclear magnetic resonance
(of methyl dihydrofusidate)
IT 29-Nor-8.xi.,9.xi.,13.xi.,14.xi.-dammar-17(20)-en-21-oic acid, 3.alpha.,16.alpha.-dihydroxy-11-oxo-, .gamma.-lactone, acetate
IT 6990-06-3, Fusidic acid
(identity with 3.alpha.,11,16.alpha.-trihydroxy-29-nor-8.xi.,9.xi.,-13.xi.,14.xi.-dammara-17(20),24-dien-21-oic acid 16-acetate)
IT 4779-72-0, Fusidic acid, dihydro-, methyl ester
(nuclear magnetic resonance of)
IT 4959-41-5, Fusidic acid, 16-deacetyldihydro-, .gamma.-lactone, 3-acetate 107380-53-0, 29-Nor-8.xi.,9.xi.,13.xi.,14.xi.-dammara-17(20),24-dien-21-oic acid, 3.alpha.,11,16.alpha.-trihydroxy-, 16-acetate 107655-48-1, 29-Nor-8.xi.,9.xi.,14.xi.-dammara-12,17(20)-dien-21-oic acid, 3.alpha.,16.alpha.-dihydroxy-11-oxo-, .gamma.-lactone, acetate 107983-56-2, 29-Nor-8.xi.,13.xi.,14.xi.-dammara-9(11),17(20)-dien-21-oic acid, 3.alpha.,16.alpha.-dihydroxy-, .gamma.-lactone, acetate
(prepn. of)
IT 221-25-0, 1H-Naphth[2',1':4,5]indeno[2,1-b]furan
(triterpenoid derivs.)

L32 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN 1963:428779 HCAPLUS

DN 59:28779
OREF 59:**5248f-h,5249a-c**
TI Derivatives of aldonic and aldaric acids
AU Bognar, Reyso; Farkas, Istvan; Szabo, Ilona F.; Szabo, Giyella D.
CS Univ. Debrecen, Hung.
SO Ber. (1963), 96, 689-93
DT Journal
LA Unavailable
CC 43 (Carbohydrates)
AB Heating 1 g. penta-O-acetylD-galactonic acid (I) and 1 ml. MeOCHCl2 (II) 1 hr. on a water bath, concg. at 50.degree., and recrystg. from Et2O-ligroine gave 92% I chloride, m. 80.degree., [.alpha.]D, 3.4.degree. (c 3, CHCl3). Octa-O-acetylcellobionyl chloride (III), 92.7% yield, m. 115.degree., [.alpha.]D, 2.1.degree. (c 2.4, CHCl3). Heating 1 g. tetra-O-acetylgalactaric acid (IV), 2 g. II, and a trace ZnCl2 1 hr. and recrystg. front C6H6 gave 75% IV diacid chloride, m. 178-9.degree.. Reaction of 1 g. chloride in 10 ml. Me2CO and 0.3-0.4 g. NaN in 2 ml. H2O 30 min. at 0.degree. and crystn. of the ppt. from Me2CO-H2O gave the azide, stable when stored over KOH; the following were prepd. (yield, m.p., and [.alpha.]D given): I azide, 87%, 104-5.degree., 2.6.degree. (c 1.95, Me2CO); III azide analog, 63.7%, 112.degree., 12.9.degree. (c 1.32, CHCl3): penta-Oacetyl-D-gluconyl azide (V), 72.7%, 89.degree., 17.degree. (c 1.71, CHCl3). Heating 0.72 g. V with 20 ml. EtOH 3 hrs., concn. to 4 ml., addn. of H2O, and crystn. of the ppt. from aq. EtOH gave 0.4 g. 2,3,4, 5,6-pent a- O- acetyl - N- ethoxycarbonyl -D- gluconamide, m. 11718.degree., [.alpha.]D 27.2.degree. (c 1, CHCl3) the other azides gave sirupy products. Reaction of 1 g. chloride in 4 ml. CHCl3 with 1 ml. PhNH2 1 hr., concn., rubbing the residue with 1% HCl, and crystn. from dil. EtOH gave the anilide [acetylated anilide, % yield, m.p., [.alpha.] D, yield deacetylated anilide (from NaOMe 16 hrs. at 0.degree./, m .p. and [.alpha.] D given]: I anilide, 79.3%, 172-3.degree., 65.2.degree. (c 0.9, CHCl3), 81.4%, 209.degree., 58.degree. (c 0.4, H2O); III anilide analog, 83.9%, 154.degree., 43.7.degree. (c 0.8, CHCl3) sirup, -, -; IV dianilide, 67.5%, decompd. .apprx.300.degree., -, 81.9)%, 248-9% -; V anilide analog, 75.7%, 156.degree., 38.6.degree. (c 1.5, CHCl3), 73%, 171.degree., 51.3.degree. (c 1.13, H2O). Reaction of the chloride in Me,CO with 2 equivs. sulfanilamide (VI) 1 hr., filtration from VI.HCl, concn., and crystn. from dil. EtOH gave the 4-aminosulfonylanilide (Z deriv.). Products (same data given): I Z deriv., 87.6%, 196-7.degree., 32.8.degree. (c 1.3, Me2CO), 75.2%, 221.degree., 52.8.degree. (c 1.44, O.1N NaOH); III Z analog, 84.5%, 126-8.degree., 17.4.degree. (c 1, CHCl3), sirup, -, -; IV bis(Z deriv.), 69.5%, 300-2.degree. (decompn.), -, 82%, 259.degree., -; V Z analog, 69.6%, 149.degree., 21.5.degree. (c 1.5, Me2CO), 90.5%o, 198.degree., 46.8.degree. (c 1, H2O). The IV bis(Z deriv.) was prepd. in C5H5N-Me2CO; this and the IV anilide were deacetylated by 24-hr. shaking with NaOMe at 25.degree.. III, prepd. in 670% yield from 7 g. III amide analog in 35 ml. HOAc satd. at 0.degree. with N2O3 and the mixt. shaken 4.5 hrs. at 25.degree., m. 138.degree., [.alpha.] D) 8.9.degree. (c 1.76, CHCl3). Reaction ot 0.5 g. I azide.in 10 ml. EtOAc at 0.degree. with 0.5 ml. PhNH2 3 hrs. gave 69% anilide; V azide analog gave 73% V anilide analog. The azides and VI gave no products. Heating 3 g. V azide analog with 1.5 ml. PhCH2OH at 100.degree., concn, in vacuo, hydrogenation in EtOH over Pd-C 5-7 hrs. at 1 atm., concn. at 50.degree., heating the residue with 10% NaOH at 40.degree. 2 hrs. (NH3 evolved), and treatment with PhNHNH2 and aq. HOAc 1 hr. at 100.degree. gave 15% D-arabinose phenylosazone, m. 154-6.degree..
IT Aldaric acids
Aldonic acids
(derivs.)
IT Galactaranilide, 4',4"-disulfamoyl-
Galactaranilide, 4',4"-disulfamoyl-, tetraacetate
Galactonanilide, pentaacetate, D-
Galactonanilide, D-

Galactonanilide, 4'-sulfamoyl-, pentaacetate, D-
Galactonanilide, 4'-sulfamoyl-, D-
Galactonoyl azide, pentaacetate, D-
Galactonoyl chloride, pentaacetate, D-
Gluconanilide, pentaacetate, D-
Gluconanilide, 4'-sulfamoyl-, pentaacetate, D-
Gluconanilide, 4'-sulfamoyl-, D-
Gluconoyl azide, pentaacetate, D-
D-Glucose, 2-acetamido-3-O-(1-carboxyethyl)-2-deoxy-, lactone, diacetate
D-Glucose, 2-acetamido-3-O-(1-carboxyethyl)-2-deoxy-, methyl ester
D-Glucose, 2-acetamido-3-O-(1-carboxyethyl)-2-deoxy-, methyl ester, triacetate, .alpha.-
D-Glucose, 2-acetamido-3-O-(1-carboxyethyl)-2-deoxy-, methyl ester, triacetate, .beta.-

IT 2494-51-1, D-Glucose, 2-amino-3-O-(1-carboxyethyl)-2-deoxy- (derivs.)
IT 147-81-9, Arabinose
(formation of, from D-gluconoyl azide pentaacetate)
IT 5160-18-9, Galactaranilide, tetraacetate 10597-89-4, D-Glucose, 2-acetamido-3-O-(D-1-carboxyethyl)-2-deoxy- 24758-64-3, Gluconanilide, D- 24909-50-0, Cellobionoyl azide, octaacetate 45292-65-7, Galactaroyl chloride, tetraacetate 88893-08-7, Carbamic acid, (D-gluco-pentahydroxypentyl)-, ethyl ester, pentaacetate 97573-30-3, Cellobionanilide, 4'-sulfamoyl-, octaacetate 99786-16-0, Galactaranilide 105001-04-5, Cellobionic acid, octaacetate 105067-88-7, Cellobionoyl chloride, octaacetate 107801-56-9, Cellobionanilide, octaacetate
(prepn. of)

=> d 142 bib abs hitstr tot

L42 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:368376 HCAPLUS
DN 132:347846
TI Benzyllactobionamides as inhibitors of smooth muscle cell proliferation
IN **Mayer, Scott Christian**
PA **American Home Products** Corp., USA
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT **Patent**
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000031092	A2	20000602	WO 1999-US27774	19991123 <--
	WO 2000031092	A3	20010118		
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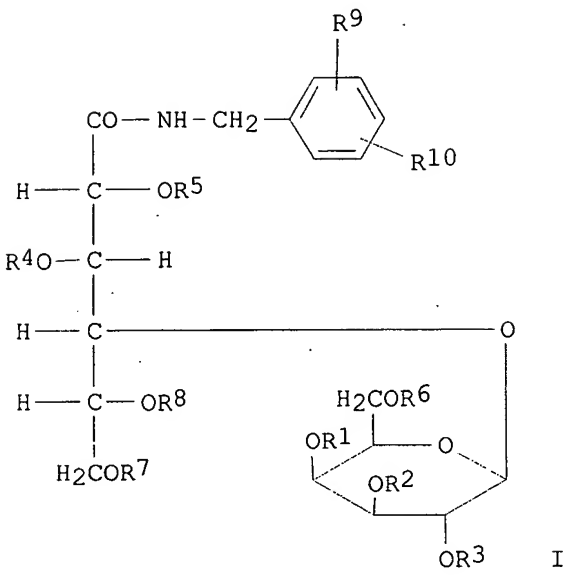
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9957066	A1	20000613	AU 1999-57066	19990204 <--
	BR 9915641	A	20010807	BR 1999-15641	19991123 <--
	EP 1133507	A2	20010919	EP 1999-944107	19991123 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002530417	T2	20020917	JP 2000-583920	19991123 <--
PRAI	US 1998-198982	A	19981124 <--		
	WO 1999-US27774	W	19991123		

OS MARPAT 132:347846
GI



I

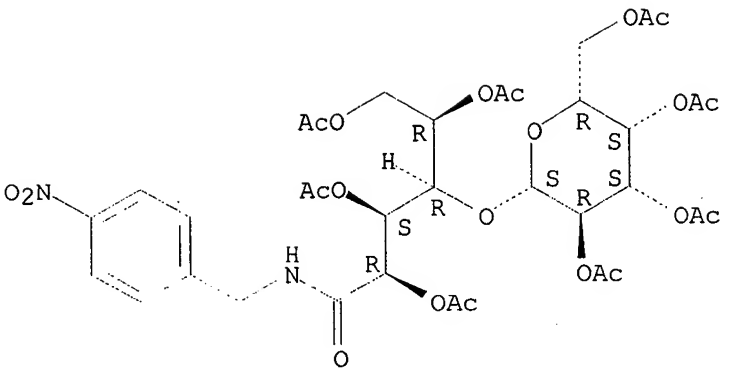
AB Title compds. I (where R1, R2, R3, R4, R5, R6, R7, R8 = C2-C7 acyl, haloacyl, nitroacyl, C3-C7 cyanoacyl, C3-C8 trifluoromethylacyl, benzoyl, or SO3H; R9 = H, CN, NO2, halo, CF3, C1-C6 alkyl, or C1-C6 alkoxy; R10 = H, NO2, substituted amino group, substituted heterocycle, etc.) were prepd. for use in inhibiting smooth muscle cell proliferation, e.g., in restenosis and angiogenesis. Thus, N-benzyl-octa-O-acetyl-lactobionamide was prepd. in 2 steps and 84% yield from lactobiono-1,5-lactone and benzylamine. For inhibition of porcine cell proliferation the title compds. prepd. displayed IC50 values ranging from 118 .mu.M to 122 .mu.M and 12% to 45% @ 500 .mu.M.

IT **270069-36-8P 270069-39-1P 270069-40-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. of benzyllactobionamides as inhibitors of smooth muscle cell proliferation)

RN 270069-36-8 HCAPLUS

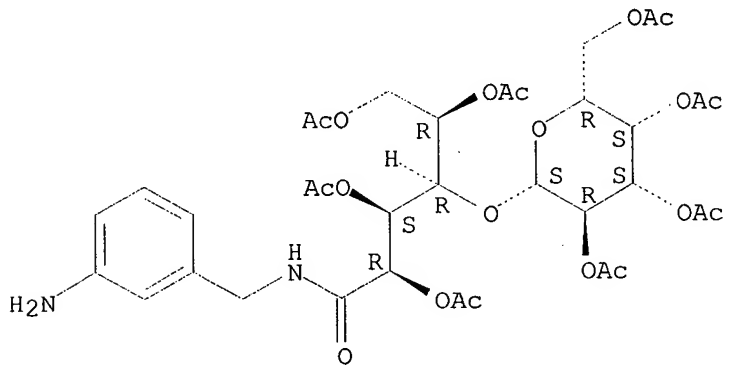
CN D-Gluconamide, N-[(4-nitrophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



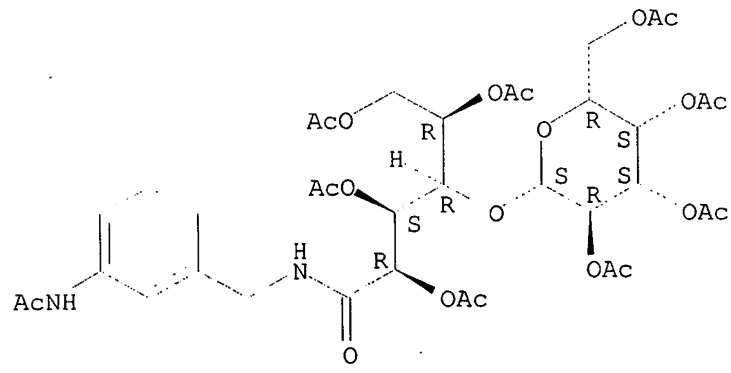
RN 270069-39-1 HCAPLUS
CN D-Gluconamide, N-[(3-aminophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 270069-40-4 HCAPLUS
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

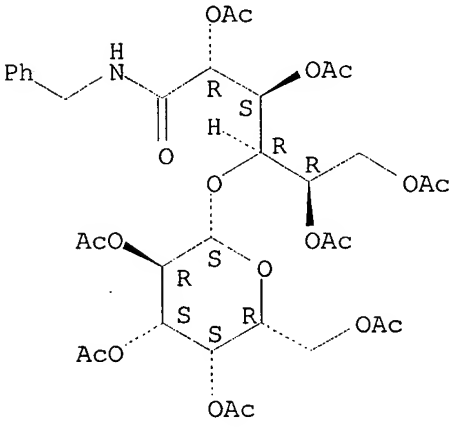


IT **270069-34-6P 270069-35-7P 270069-37-9P**
270069-41-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of benzyllactobionamides as inhibitors of smooth muscle cell proliferation)

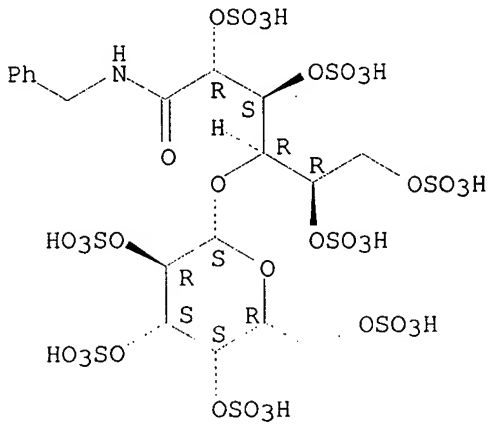
RN 270069-34-6 HCAPLUS
CN D-Gluconamide, N-(phenylmethyl)-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 270069-35-7 HCAPLUS
CN D-Gluconamide, N-(phenylmethyl)-4-O-(2,3,4,6-tetra-O-sulfo-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetrakis(hydrogen sulfate), octasodium salt (9CI) (CA INDEX NAME)

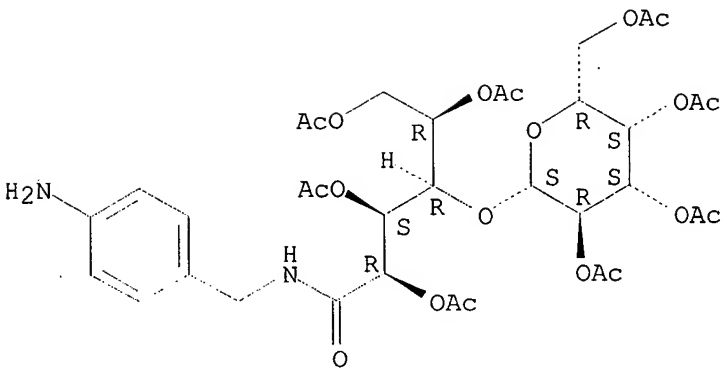
Absolute stereochemistry.



●8 Na

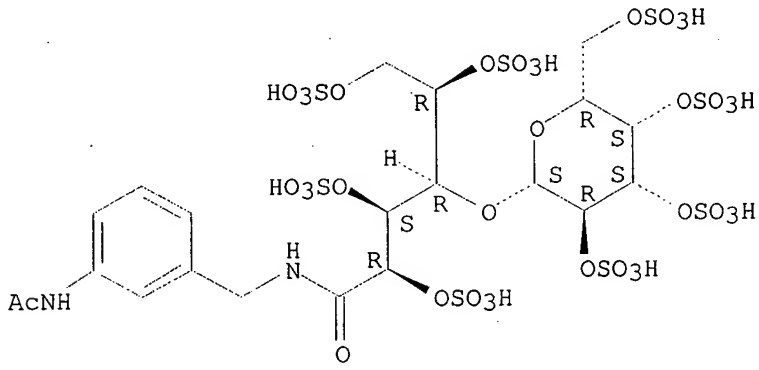
RN 270069-37-9 HCAPLUS
CN D-Gluconamide, N-[(4-aminophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 270069-41-5 HCAPLUS
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-(2,3,4,6-tetra-O-sulfo-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetrakis(hydrogen sulfate), octasodium salt (9CI) (CA INDEX NAME)

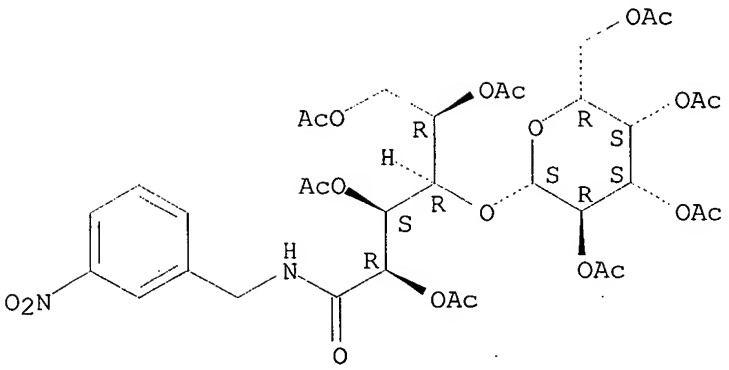
Absolute stereochemistry.



●8 Na

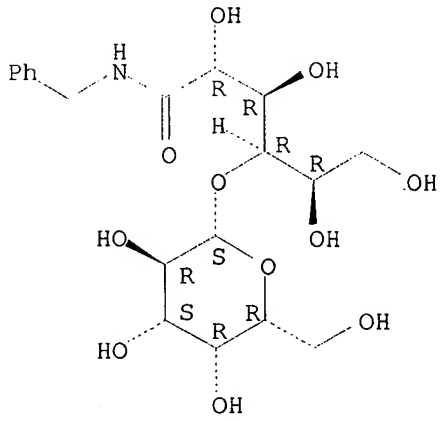
IT **270069-38-0**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of benzyllactobionamides as inhibitors of smooth muscle cell proliferation)
RN 270069-38-0 HCAPLUS
CN D-Gluconamide, N-[(3-nitrophenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



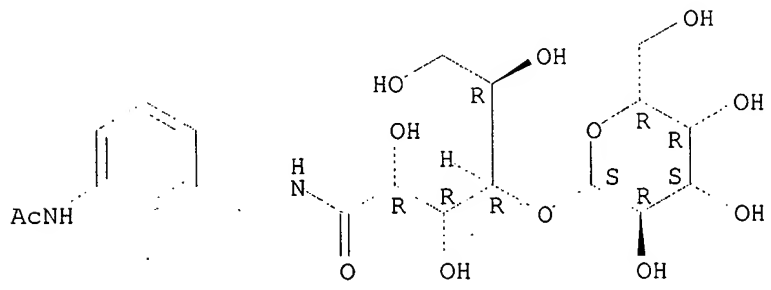
IT **270069-33-5P 270069-42-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of benzyllactobionamides as inhibitors of smooth muscle cell proliferation)
RN 270069-33-5 HCAPLUS
CN D-Gluconamide, 4-O-.beta.-D-galactopyranosyl-N-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 270069-42-6 HCAPLUS
CN D-Gluconamide, N-[[3-(acetylamino)phenyl]methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L42 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:752255 HCAPLUS
DN 131:334320
TI Plate for cytotoxicity testing of drugs or other chemicals
IN Akaike, Toshihiro; Murata, Atsuhiro; Morikawa, Akihiko
PA JSR Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

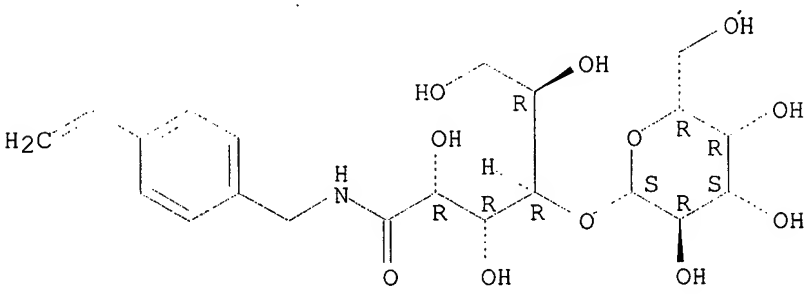
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11326311	A2	19991126	JP 1998-126467	19980508 <--

AB A plate for cytotoxicity testing of drugs or other chems. are prepd. by immobilizing ligands [e.g. PVLA] recognizing cell receptors of cells [e.g. HepG2 cells] of a plate, culturing the cells in the treated plates, placing test drugs or chems [e.g. SDS] in the wells and observing changes in the cells. Detn. of cytotoxicity of SDS and emulgen 900 is given as an example.
IT **96910-25-7**, Pvla
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in plate for cytotoxicity testing of drugs or other chems.)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

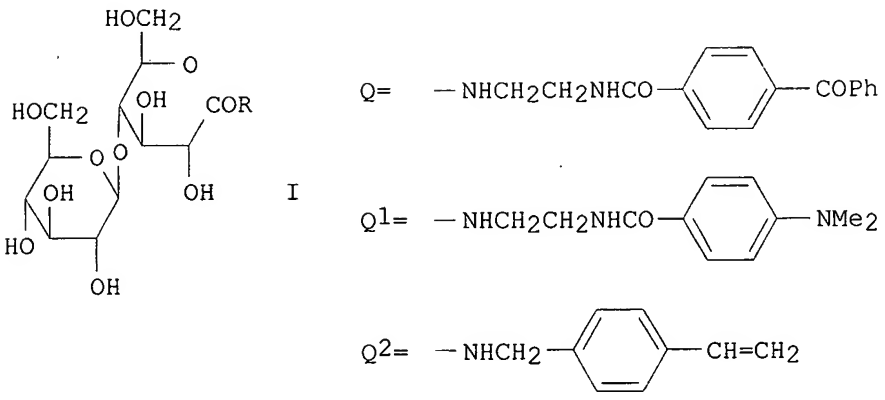
Absolute stereochemistry.



L42 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:409264 HCAPLUS
DN 131:59094
TI Preparation of lactonolactone amide derivatives and their polymers with UV absorbability
IN Goto, Mitsuaki
PA Bio Quest Research Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11171894	A2	19990629	JP 1997-340063	19971210 <--

GI



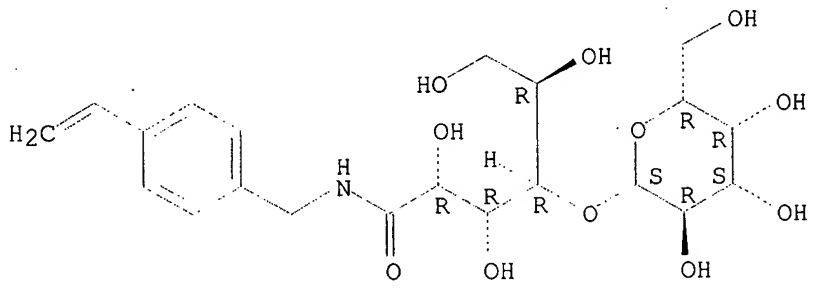
AB Sugar chain derivs. (I; R = Q, Q1) and copolymers of sugar chain-contg. styrene monomer (II; R = Q2) with 9-vinylanthracene or 9-vinylcarbazole, which possess high water soly. and UV-absorbability and are useful as water-sol. UV absorbents for cosmetics (no data), are prepd. Thus, lactonolactone (prepn. given) was condensed with ethylenediamine in MeOH under reflux to give amide (I; R = NHCH2CH2NH2) which was condensed 4-dimethylaminobenzoic acid N-hydroxylsuccinimide ester (prepn. given) in DMF at room temp. for 12 h to give the title compd. (I; R = Q1).

IT **96886-53-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of lactose lactone amide derivs. and their polymers as UV absorbents for cosmetics)

RN 96886-53-2 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L42 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2002 ACS

AN 1998:385521 HCAPLUS

DN 129:38146

TI Contrast compound, contrast medium for MRI, and method for MRI

IN Akaike, Toshihiro; Mikawa, Masato; Maruyama, Atsushi; Takahashi, Masaya; Miyazawa, Tomoaki; Miwa, Naoto

PA Nihon Schering K.K., Japan; Akaike, Toshihiro; Mikawa, Masato; Maruyama, Atsushi; Takahashi, Masaya; Miyazawa, Tomoaki; Miwa, Naoto

SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9823293	A1	19980604	WO 1997-JP4343	19971127 <--
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9851356	A1	19980622	AU 1998-51356	19971127 <--
PRAI	JP 1996-318350		19961128 <--		
	WO 1997-JP4343		19971127 <--		

AB A compd. comprising an MRI contrast compd. and a sugar chain polymer bonded thereto, esp. hyaluronic acid, corresponding to a glycoprotein receptor specifically manifesting in a tumor or organ; an MRI contrast medium contg. the compd.; and a method for imaging a tumor and/or a liver with the MRI contrast medium. An MRI contrast compd. and an MRI contrast medium both having a target site directivity are obtained by modifying an MRI contrast compd. with a sugar chain polymer corresponding to a glycoprotein receptor specifically manifesting in a tumor or organ. In particular, selection of hyaluronic acid, which is highly hydrophilic, as the modifying sugar chain polymer is expected to be esp. effective in avoiding the phagocytosis by reticuloendothelial system. Since target sites can be imaged specifically, the contrast medium enables diagnosis in a small dose, i.e., toxicity can be reduced.

IT **96910-25-7P**, PVLA
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(contrast compd., contrast medium for MRI, and method for MRI)

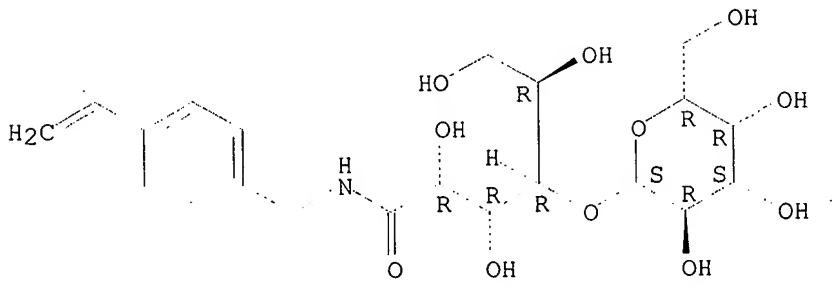
RN 96910-25-7 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

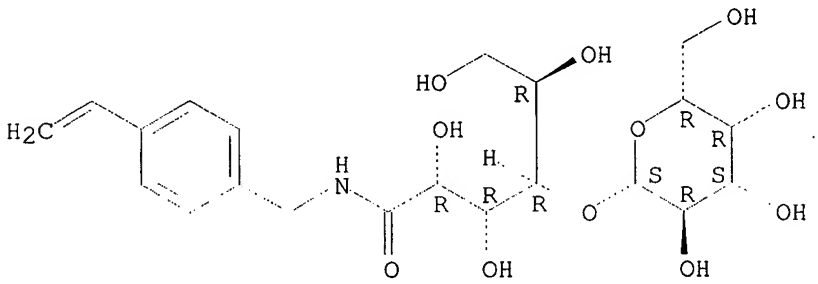
L42 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:115877 HCAPLUS
DN 128:235131
TI Novel graft copolymers as drug carriers for cell targeting

IN Maruyama, Atsushi; Akaike, Toshihiro; Goto, Takeshi; Yonemura, Keiji; Nozaki, Chikateru; Ueno, Tetsuo
PA Hisamitsu Pharmaceutical Co., Japan; Chemo-Sero-Therapeutic Research Institute
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10045630	A2	19980217	JP 1996-219305	19960801 <--

AB DNA, RNA or anionic drugs conjugated with a novel graft copolymer [prepn. and markush given] as drug carrier for cell targeting are claimed.
IT **96886-53-2D**, polymers with alkylamino-terminated lysine oligomers
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of novel graft copolymers as drug carriers for cell targeting)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L42 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:126797 HCAPLUS
DN 126:129003
TI Polysaccharides, cell recognition agents, cell culture mediums, cell culturing methods, and agents for cell recovery
IN Yura, Hirofumi; Goto, Mitsuaki; Akaike, Toshihiro
PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08319317	A2	19961203	JP 1996-59693	19960315 <--
JP 3053764	B2	20000619		
PRAI JP 1995-59573	A	19950317 <--		

AB The polysaccharides comprise copolymers of polysaccharide-contg. styrene derivs. and vinyl monomers having .gtoreq.1 functional sites, preferably vitamins, chems., cytokines, growth factors, flavonoids, nucleic acids, and peptides. The cell recognition agents comprise polysaccharides having RGDSG (arginine-glycine-aspartic acid-serine-glycine) peptide as the functional sites. The functional sites show nonspecific function to cells which recognize the polysaccharides specifically. The functional sites may be basic groups which form complexes with acidic polysaccharides. The gel cell culture media are composed of complexes of the copolymer polysaccharides and acidic polysaccharides. The media are granulated and

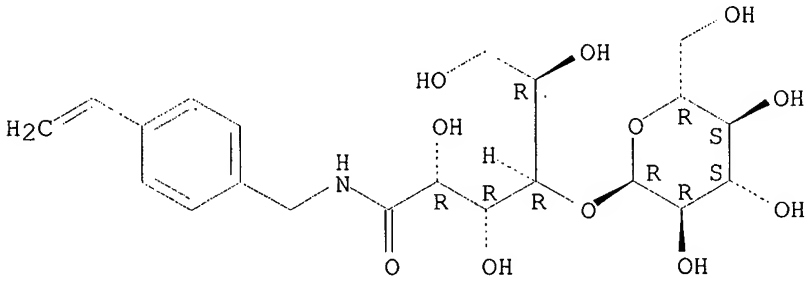
cells are cultured in the resulting particles. The agents for cell recovery comprise the copolymer polysaccharides having temp.-sensitive sites in the styrene derivs. Thus, 7.9 mmol biotin hydroxysuccinimide ester and vinylbenzylamine were dissolved in DMF and reacted at 37.degree. to give 2.1 g vinylbenzylbiotinamide, which was copolymd. with N-p-vinylbenzyl-[O-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide] at mol. ratio of 90:10 in DMSO in the presence of AIBN to give a polysaccharide. FITC was introduced into the polymer at a ratio of 1 FITC to 120 monomer units. The resulting polymer recognized Hep G2 (cancer cell).

IT **96886-52-1P**
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(styrene deriv.-polysaccharide copolymers for cell recognition, culture, and recovery)

RN 96886-52-1 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

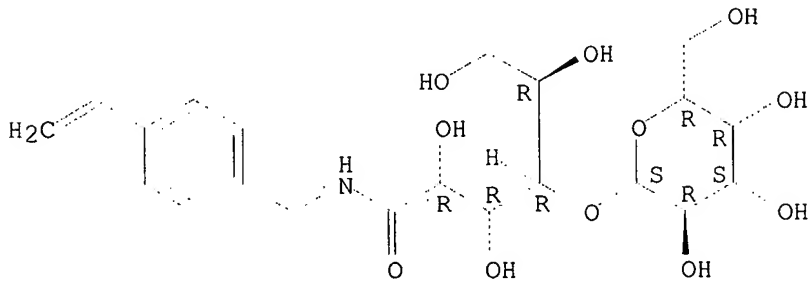


IT **96886-53-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(styrene deriv.-polysaccharide copolymers for cell recognition, culture, and recovery)

RN 96886-53-2 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L42 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2002 ACS

AN 1997:107261 HCAPLUS

DN 126:115419

TI Label comprising fluorescent substance and polysaccharide for identification of cell by flow cytometer

IN Yura, Hirofumi; Goto, Mitsuaki; Akaike, Toshihiro

PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08320321	A2	19961203	JP 1996-59692	19960315 <--
JP 3200607	B2	20010820		
PRAI JP 1995-59572	A	19950317 <--		

AB Disclosed is a cell identification label for flow cytometer equipped with memory to record labeling pattern. The label comprises fluorescent substance or beads. The label also comprises polysaccharide chain selecting from poly[N-p-vinylbenzyl-[O-.beta.-galactopyranosyl-(1.fwdarw.4)-D-gluconamide]], poly[N-p-vinylbenzyl-[O-.alpha.-glucopyranosyl-(1.fwdarw.4)-D-gluconamide]], poly[N-p-vinylbenzyl-[O-.beta.-mannopyranosyl-(1.fwdarw.4)-D-mannamide]], poly[N-p-vinylbenzyl-[O-.alpha.-galactopyranosyl-(1.fwdarw.6)-D-gluconamide]], poly[N-p-vinylbenzyl-[O-6-carboxymethyl-.beta.-galactopyranosyl-(1.fwdarw.4)-O-D-6-carboxymethyl-gluconamide]], poly(3-O-4'-vinylbenzyl-D-glucose), poly[N-p-vinylbenzyl-[O-2-acetoamido-2-deoxy-.beta.-D-glucopyranosyl-(1.fwdarw.4)-O-D-2-acetoamido-2-deoxy-.beta.-D-glucopyranosyl-(1.fwdarw.4)-O-D-2-acetoamido-2-deoxy-.beta.-D-gluconamide]], poly[N-p-vinylbenzyl-[O-2-acetoamido-2-deoxy-.beta.-D-glucopyranosyl-(1.fwdarw.4)-O-D-2-acetoamido-2-deoxy-.beta.-D-gluconamide]], poly(N-p-vinylbenzyl-D-gluconamide), and poly[N-p-vinylbenzyl-[O-.beta.-D-glucopyranosyl-(1.fwdarw.3)-D-gluconamide]].

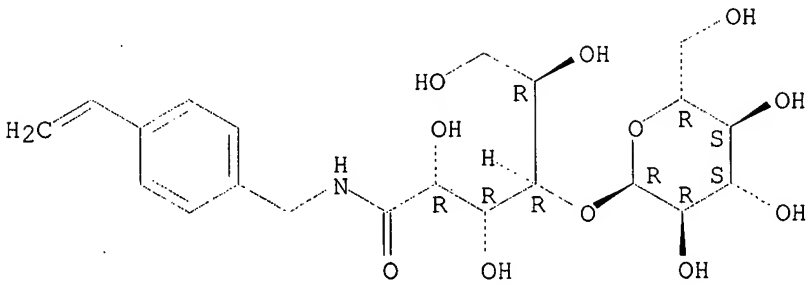
IT **96910-24-6 96910-25-7 184241-82-5 185826-19-1**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(label comprising fluorescent substance and polysaccharide for identification of cell by flow cytometer)

RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

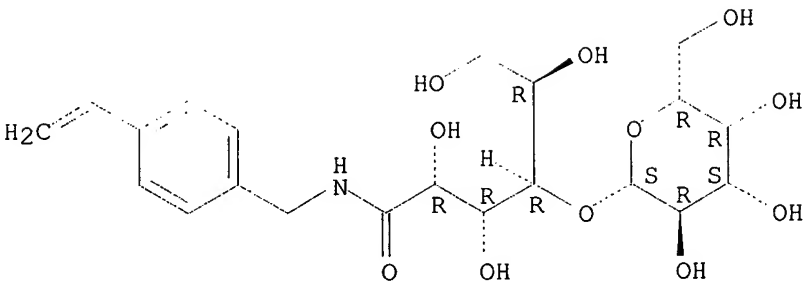


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

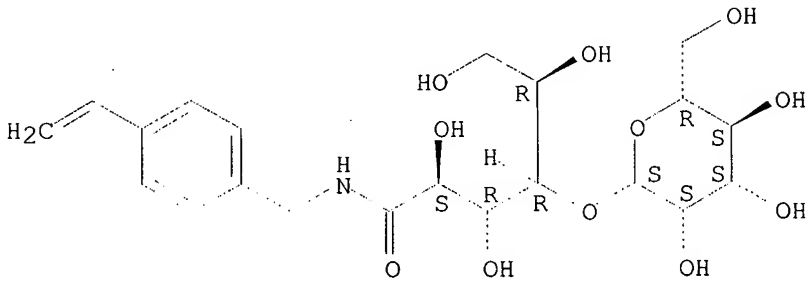


RN 184241-82-5 HCAPLUS
CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-mannopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 184241-81-4
CMF C21 H31 N O11

Absolute stereochemistry.

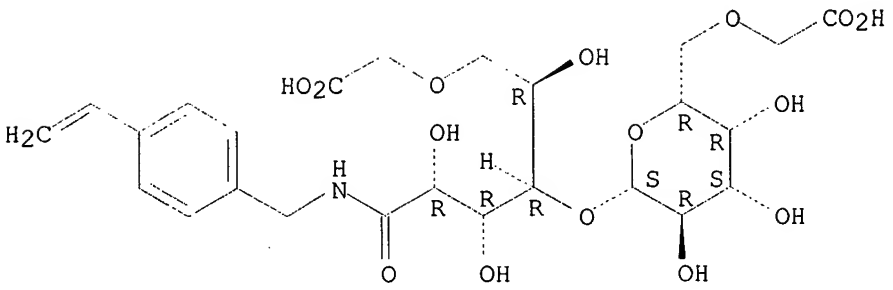


RN 185826-19-1 HCAPLUS
CN D-Gluconamide, 6-O-(carboxymethyl)-4-O-[6-O-(carboxymethyl)-.beta.-D-galactopyranosyl]-N-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 185826-18-0
CMF C25 H35 N O15

Absolute stereochemistry.



L42 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:101558 HCAPLUS
DN 126:101463
TI Cell culture material modified with carbohydrate
IN Yura, Hirofumi; Goto, Mitsuaki; Kobayashi, Kazukyo; Akaike, Toshihiro
PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08317786	A2	19961203	JP 1996-87195	19960315 <--
JP 3177610	B2	20010618		
PRAI JP 1995-86527	A	19950317 <--		

AB The surface of cell culture container, flask, plate, film, etc. is modified with carbohydrate polymer to regulate the morphol. change, proliferation, etc. of cultured cells. The cell culture device is based on e.g. polystyrene and is modified with carbohydrate selected from poly-[N-p-vinylbenzyl-[O-.alpha.-D-glucopyranosyl-(1.fwdarw.4)-D-glucosamide]], poly-[N-p-vinylbenzyl-[O-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide]],.

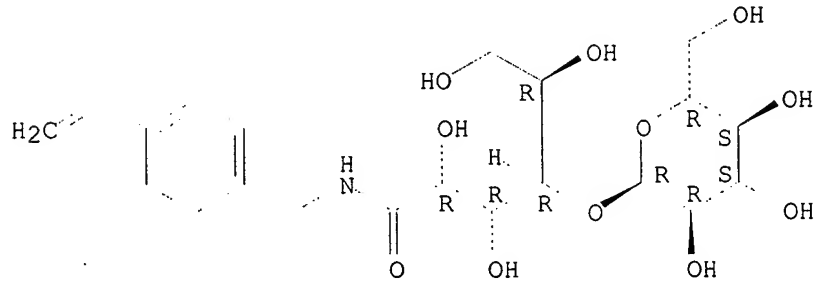
IT **96910-24-6 96910-25-7 184241-82-5**
RL: BUU (Biological use, unclassified); DEV (Device component use); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)
(cell culture material modified with carbohydrate)

RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

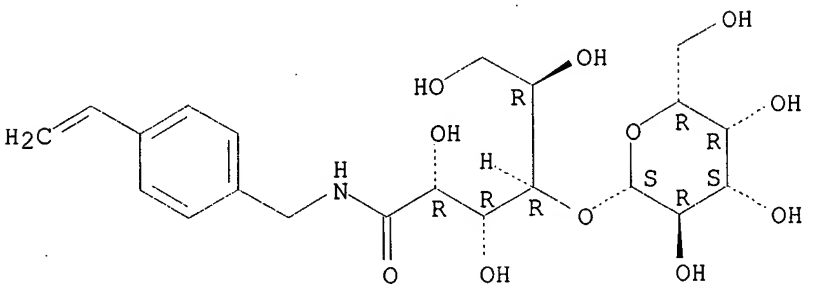


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

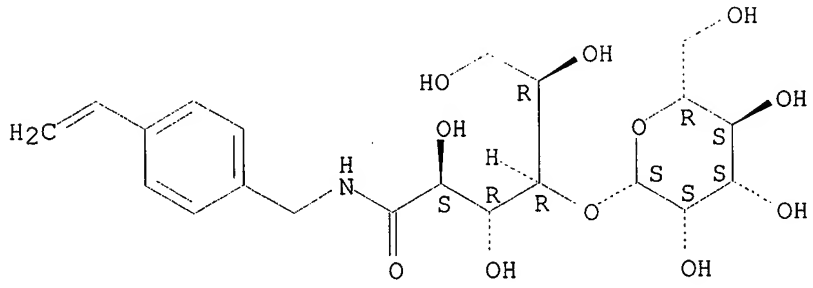


RN 184241-82-5 HCAPLUS
CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-mannopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 184241-81-4
CMF C21 H31 N O11

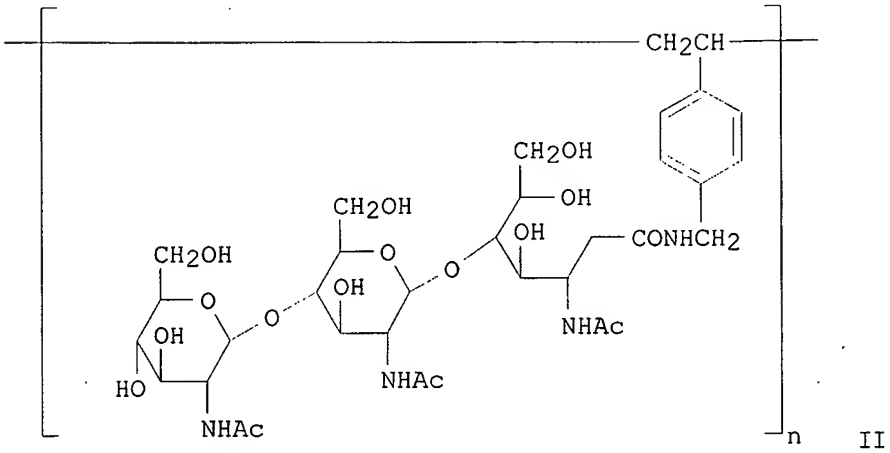
Absolute stereochemistry.



L42 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:90382 HCAPLUS
DN 126:104366
TI Preparation of oligosaccharide-linked polystyrene and method for immobilization of lectin and base materials for cells
IN Yura, Hirofumi; Goto, Mitsuaki; Akaike, Toshihiro
PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08319300	A2	19961203	JP 1996-59695	19960315 <--

JP 3139957 B2 20010305
PRAI JP 1995-59577 A 19950317 <--
GI



II

AB A method for immobilizing lectin involves adsorbing polymer contg. sugar chains having a binding specificity to a lectin to a cell base material and immobilizing said lectin through said sugar chain-contg. polymers. Said sugar chain-contg. polymers are selected from poly[N-p-vinylbenzyl-[O-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide]] (I), poly[N-p-vinylbenzyl-[O-.alpha.-D-glucopyranosyl-(1.fwdarw.4)-D-gluconamide]], poly[N-p-vinylbenzyl-[O-.beta.-D-mannopyranosyl-(1.fwdarw.4)-D-mannonamide]], poly[N-p-vinylbenzyl-[O-.alpha.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide]], poly[N-p-vinylbenzyl-[O-(6-O-carboxymethyl-.beta.-D-galactopyranosyl)-(1.fwdarw.4)-6-O-carboxymethyl-D-gluconamide]], poly(3-O-4'-vinylbenzyl-D-glucose), triglucosamine-contg. styrene polymer (II), poly[N-p-vinylbenzyl-[O-2-acetamido-2-deoxy-.beta.-D-glucopyranosyl-(1.fwdarw.4)-2-acetamido-2-deoxy-.beta.-D-gluconamide]], poly(N-p-vinylbenzyl-D-gluconamide), and poly[N-p-vinylbenzyl-[O-.beta.-D-glucopyranosyl-(1.fwdarw.3)-D-gluconamide]]. Base materials for cells are selected from a lab. dish, flask, plate, cuvet, film, fiber, and bead. The d. of immobilized lectin is easily adjusted by changing the concn. and compn. of the sugar chain polymer in the cell base material. Cells are effectively and selectively concd. and activated, since lectins are concd. on the surface of the base material and their active sites are concd. The binding specificity between a sugar chain and a lectin enables selective immobilization of a desired lectin from a soln. contg. a plural no. of lectins. For example, the sugar chain polymer II (prepd. but no specific prepn. given) was heated with fluorescein isocyanate in the presence of pyridine and dibutyltin dilaurate in DMSO at 90.degree. for 2 h to give fluorescein isocyanate-labeled II. To an aq. soln. of the latter compd. (100 .mu./mL) was added polystyrene bead latex (diam. 0.6 .mu.m, Polybead, Poly science Corp.) and allowed to react at room temp. for 2 h to adsorb the fluorescein isocyanate-labeled II to the beads and then treated with soybean agglutinin (SBA) which is galactose-recognizing lectin, and stored at room temp. to bind SBA to the galactose residue of II and give SBA-modified beads. The latter beads selectively bound to CD3 cells (T cells) of human peripheral blood mononuclear cells, suggesting that the lectin-immobilized and fluorescence-labeled beads are used as labeling agents for cells expressing galactose on the surface.

IT **96910-24-6P 96910-25-7DP**, reaction products with fluorescein isothiocyanate **96910-25-7P 118085-68-0P 185826-19-1P**
RL: ARG (Analytical reagent use); BAC (Biological activity or effector,

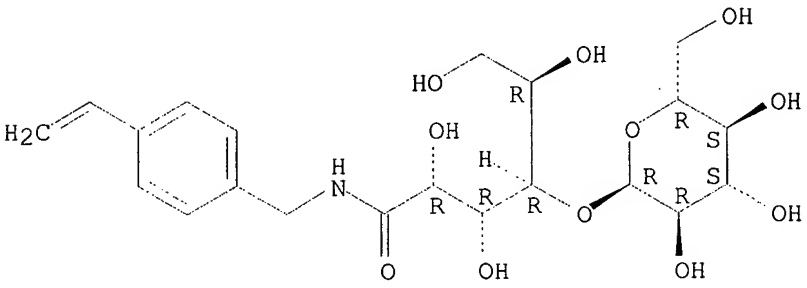
except adverse); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); TEM (Technical or engineered material use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(prepn. of oligosaccharide-linked polystyrene and method for immobilization of lectin and base materials for cells)

RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

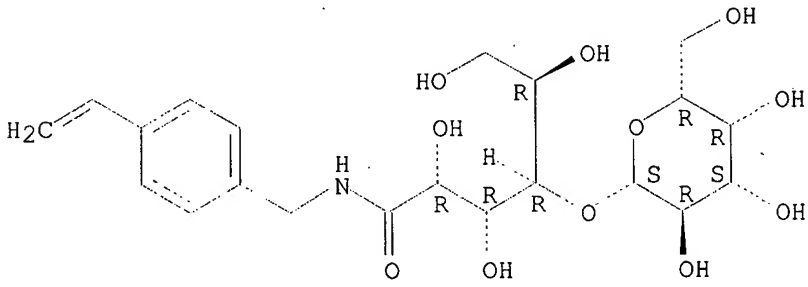


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

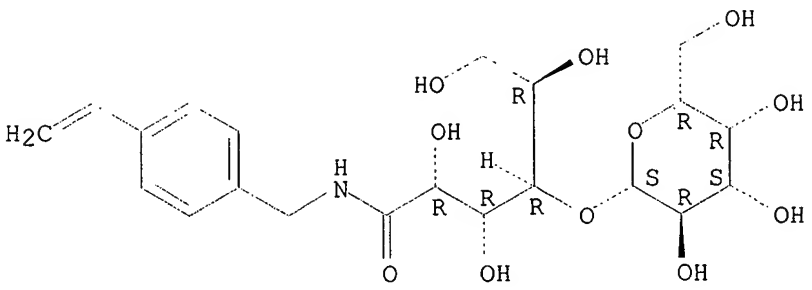


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

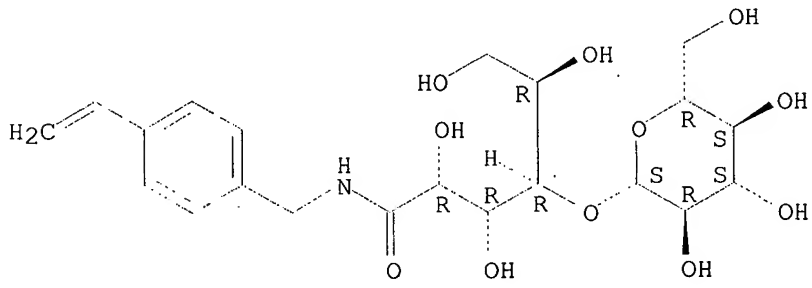


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.

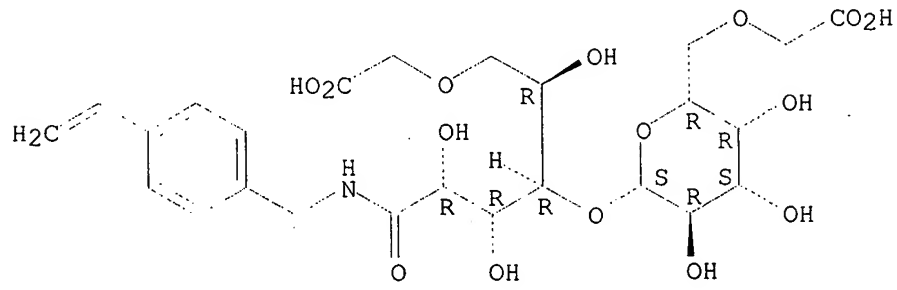


RN 185826-19-1 HCAPLUS
CN D-Gluconamide, 6-O-(carboxymethyl)-4-O-[6-O-(carboxymethyl)-.beta.-D-galactopyranosyl]-N-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 185826-18-0
CMF C25 H35 N O15

Absolute stereochemistry.



L42 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:761676 HCAPLUS
DN 126:37058

TI LDL receptor-mediated drug delivery system
IN Yura, Hirofumi; Goto, Mitsuaki; Akaike, Toshihiro
PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

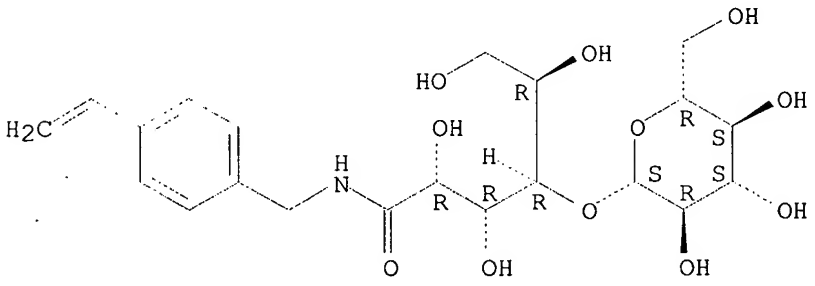
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08253430	A2	19961001	JP 1995-59574	19950317 <--

AB LDL receptor-mediated drug delivery system for fat-sol. drugs in treating liver diseases is prepd. by binding the drugs to LDL receptor-selective carriers (e.g. LDL and LDL-polyanion conjugates) to facilitate drug delivery to LDL receptor-contg. liver parenchyma cells, proliferating cells or cancer cells.
IT **118085-68-0D,** LDL conjugates
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(in LDL receptor-mediated drug delivery system for liver disease treatment)
RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

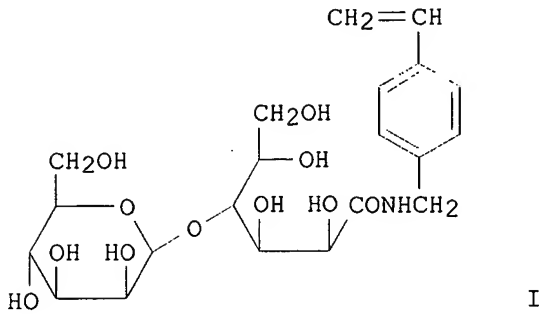
Absolute stereochemistry.



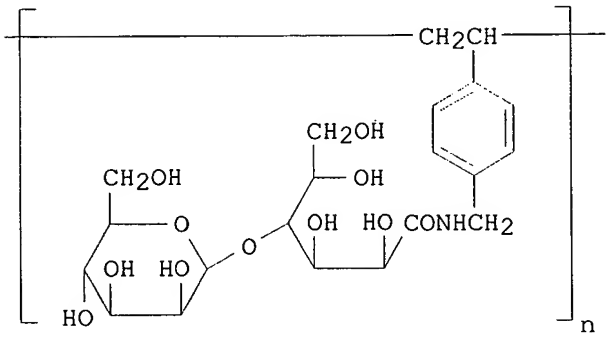
L42 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:748354 HCAPLUS
DN 126:31581
TI Preparation of N-(p-vinylbenzyl)mannobiose lactone amide and its polymer
IN Goto, Mitsuaki; Yura, Hirofumi; Akaike, Toshihiro; Kobayashi, Kazukyo
PA Kanagawa Kagaku Gijutsu Akadem, Japan; Towa Kasei Kogyo Kk
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08253495	A2	19961001	JP 1995-59575	19950317 <--

GI



I



II

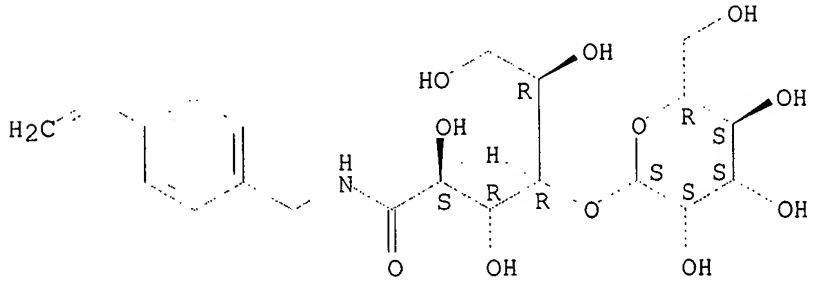
AB Styrene-contg. mannose deriv. (I) is prepd. as a monomer and polymd. to give mannose-contg. polystyrene polymer derivs. (II). These compds. are used for readily modifying cell culture materials with mannose and for hybrid artificial organs (no data). Thus, mannobiose was oxidized by iodine in aq. MeOH at 40.degree. for 30 min, treated with 4% aq. KOH/MeOH, cooled, and the formed ppt. was filtered off and washed with aq. EtOH to give 4-O-(.beta.-D-mannopyranosyl)-D-mannuronic acid potassium salt, which was passed through Amberlite IR-12B (H+-form) to give mannobiose lactone. This compd. (1.3 g) was dissolved in 30 mL MeOH and treated with a soln. of 0.53 g p-vinylbenzylamine in MeOH, and the resulting mixt. was refluxed for 120 min to give 77% 4-O-(.beta.-D-mannopyranosyl)-D-mannuronic N-(p-vinylbenzyl)amide I. I (1 g) was dissolved in DMSO and polymd. in the presence of 1 mg AIBN at 60.degree. under N for 24 h to give polymer II with no. av. mol. wt. .apprx.40,000.

IT **184241-81-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of N-(p-vinylbenzyl)mannobiose lactone amide and its polymer)

RN 184241-81-4 HCAPLUS

CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-mannopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

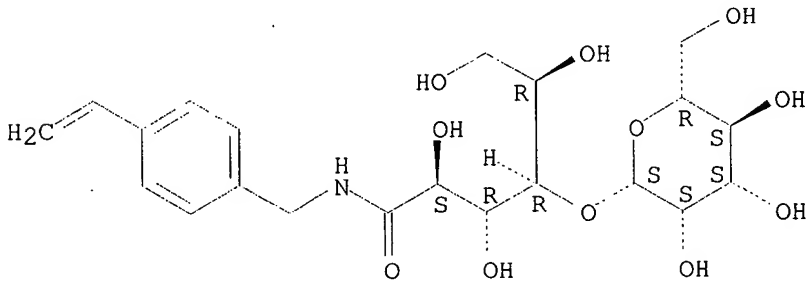


IT **184241-82-5P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of N-(p-vinylbenzyl)mannobiose lactone amide and its polymer)
RN 184241-82-5 HCAPLUS
CN D-Mannonamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-mannopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 184241-81-4
CMF C21 H31 N O11

Absolute stereochemistry.



L42 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:452042 HCAPLUS
DN 125:109670
TI Carbohydrate-containing latex for agglutination immunoassay
IN Yoshimura, Yoshinori; Yamaki, Mineo
PA Tokuyama Corp, Japan; Ei Ando Teii Kk
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

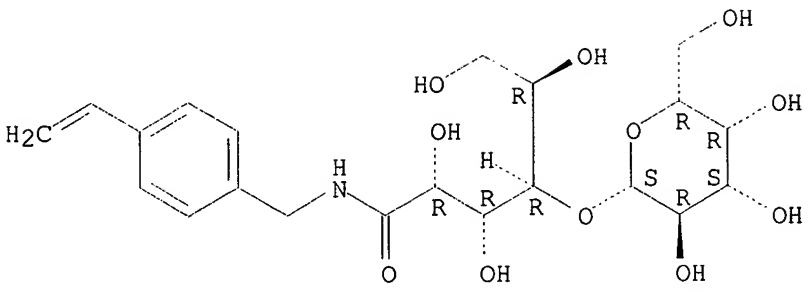
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08110340	A2	19960430	JP 1994-246236	19941012 <--

AB Latex particles coated with carbohydrate-contg. vinyl polymer is prepd. for agglutination immunoassay and for clin. diagnosis. The carbohydrate-contg. vinyl polymer is derived from monomers such as 4-aminomethylstyrene comprising lactose or other carbohydrate. In example, polystyrene particle coated with PVLA was prepd. for immobilization of anti-human .alpha.-fetoprotein antibody for anal.
IT **96910-25-7**, PVLA
RL: MOA (Modifier or additive use); USES (Uses)
(latex coated with carbohydrate-contg. vinyl polymer is prepd. for agglutination immunoassay and for clin. diagnosis)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L42 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:508130 HCAPLUS
DN 122:260573
TI Polyvinylbenzyllactonamide-immobilized fluorescent dye for detecting hepatocyte or hepatic tumor
IN Yura, Hirofumi; Goto, Mitsuaki; Akaike, Toshihiro
PA Kanagawa Kagaku Gijutsu Akadem, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

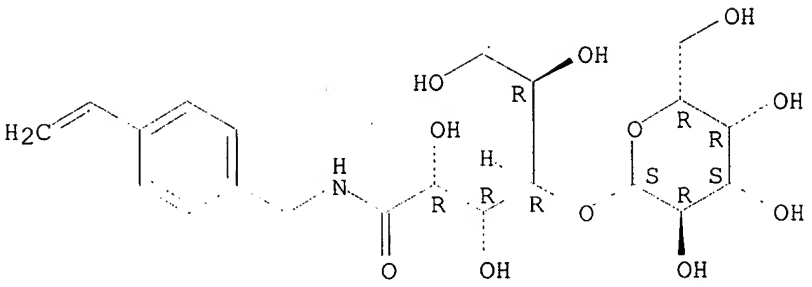
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07035754	A2	19950207	JP 1993-176988	19930716 <--
	JP 2989429	B2	19991213		

AB Disclosed is synthetic cell-detecting markers that comprise polyvinylbenzyllactonamide-immobilized fluorescent dye, e.g. fluorescein isothiocyanate. The synthetic marker has esp. high affinity for liver cell, and is useful for detecting hepatocyte or diagnosis of hepatic tumor. In example, polyvinylbenzyllactonamide was prepd. with monomer N-p-vinylbenzyl-o-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide, and labeled with FITC. The specific binding of the marker to hepatocyte surface asialoglycoprotein receptor was verified, and the marker was used for detecting hepatocyte and hepatic tumor.
IT **96910-25-7DP**, conjugates with FITC
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(polyvinylbenzyllactonamide-immobilized FITC prepd. for detecting hepatocyte and diagnosis of hepatic tumor)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L42 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:455723 HCAPLUS
DN 119:55723
TI Cosmetics containing oligosaccharide-bound polymers
IN Shaku, Masao; Ookura, Sayuri; Sugaya, Kimihiko
PA Pola Kasei Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05043418	A2	19930223	JP 1991-204471	19910814 <--
	JP 3080706	B2	20000828		

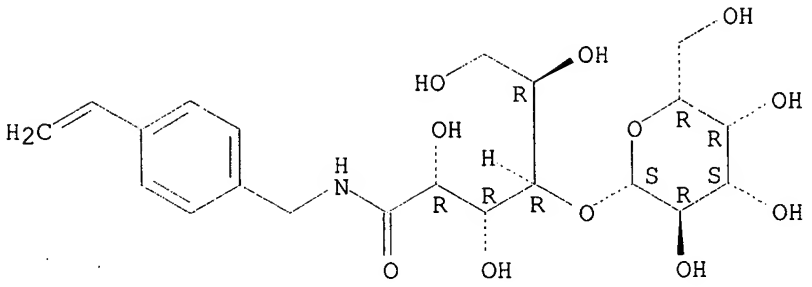
AB Cosmetics which show good skin moisturizing and vitalizing activities and accelerate hair growth, contain polymers comprising natural or synthetic polymer bases and oligosaccharides which covalently bind as structure units to the polymer bases. Refluxing cellobionolactone (prepn. given) with p-vinylbenzylamine in MeOH gave 80% N-p-vinylbenzyl-D-cellobionamide (I), which was polymd. at 60.degree. for 14 h to give 60% I homopolymer. The polymer was stable at a wide range of pH. Squalane 4.0, 2-ethylhexyl triglycerin 2.0, vaseline 3.0, sucrose fatty acid ester 3.5, UV absorber 1.0, the polymer 1.5, 1,3-butylene glycol 2.0, methylparaben 0.3, perfume 0.2, and H2O 82.5% were mixed to give an emulsion.

IT **96910-25-7 148388-70-9**
RL: BIOL (Biological study)
(cosmetics contg., for skin moisturization and hair growth stimulation)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

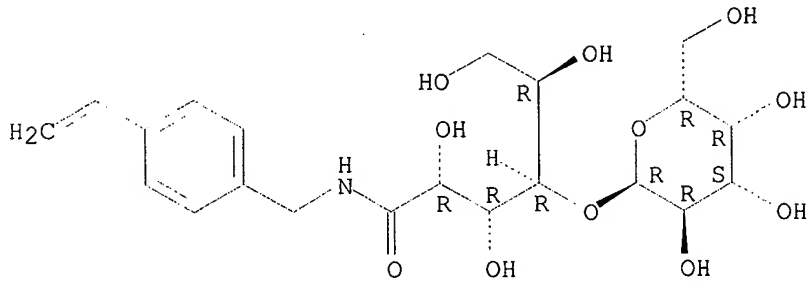


RN 148388-70-9 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

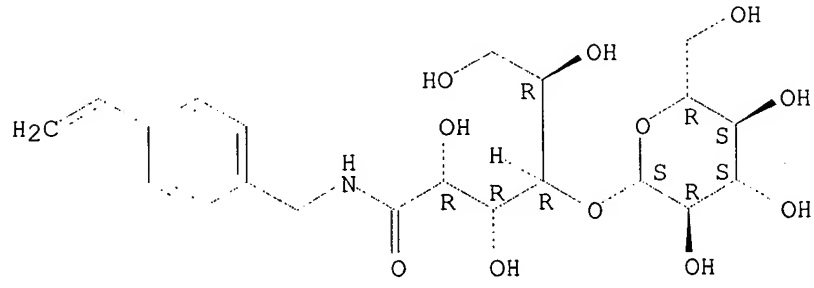
CRN 148388-69-6
CMF C21 H31 N O11

Absolute stereochemistry.



IT **118085-67-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of)
RN 118085-67-9 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



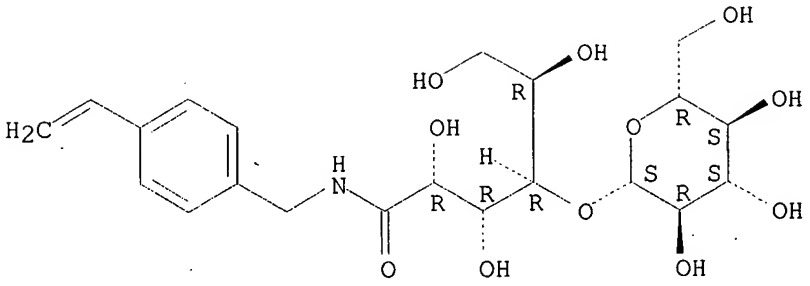
IT **118085-68-0P**
RL: PREP (Preparation)
(prepn. of, cosmetics contg., for skin moisturization and hair growth stimulation)
RN 118085-68-0 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



L42 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:214500 HCAPLUS
DN 114:214500
TI Antithrombogenic polymers for medical goods
IN Takayama, Takashi; Akaike, Toshihiro; Kobayashi, Kazukyo; Sumitomo, Hiroshi; Onishi, Toshimasa
PA Nagase Kasei Kogyo K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

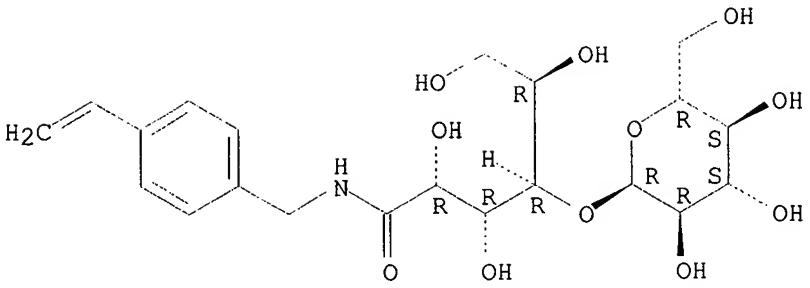
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 02224664	A2	19900906	JP 1989-47335	19890227 <--
JP 2753617	B2	19980520		

AB An antithrombogenic material for medical goods contains .gtoreq.1 compd. selected from the group comprising poly(N-4-vinylbenzyl-D-lactoneamide) (I), poly(N-4-vinylbenzyl-D-cellobioneamide), poly(N-4-vinylbenzyl-D-maltoneamide), poly(N-4-vinylbenzyl-D-maltotrioneamide), poly(N-4-vinylbenzyl-D-maltopentaoneamide), and poly(N-4-vinylbenzyl-D-maltoheptaoneamide). Thus, polystyrene beads were coated with I, and its antithrombogenic activity was shown.
IT **96910-24-6 118085-68-0**
RL: BIOL (Biological study)
(styrene beads coating with antithrombogenic, for medical goods)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

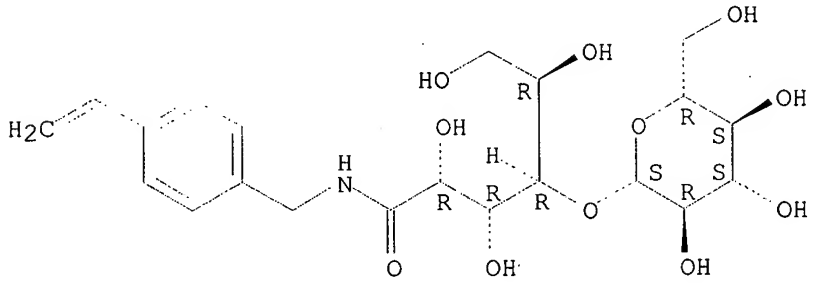


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

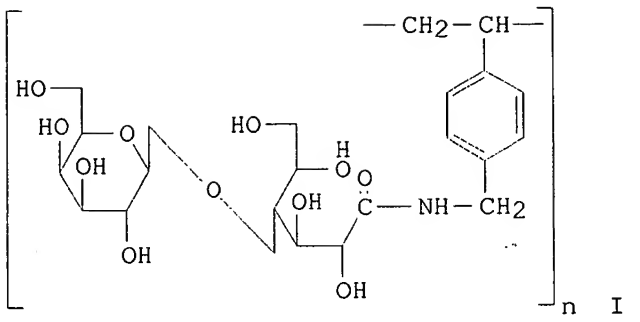
Absolute stereochemistry.



L42 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:56001 HCAPLUS
DN 110:56001
TI Liver cell culture on polyvinylbenzyllactonamide-coated substrata
IN Akaike, Toshihiro; Kobayashi, Akira; Sumitomo, Hiroshi; Kobayashi, Kazukyo; Mori, Mitsukuni
PA Nagase Chemicals, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT **Patent**
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63116692	A2	19880520	JP 1986-263196	19861104 <--
	JP 07106145	B4	19951115		

GI



AB Liver cells cultivated on an app. coated with poly (N-p-vinylbenzyl-D-lactonamide) (I) show a higher survival rate. The methods of subculture and recovery of the liver cells are also demonstrated. Culture dishes contg. William's E medium supplemented with fetal calf serum 10% were inoculated with rat liver cells prepd. by Seglen's method. The survival (adhesion) rate of the cells cultured on the dishes coated with I (0.01 wt./vol. %) after 12 h was 90%, and >50% after 5 days. The cells, after treatment with EDTA 0.02% for 10 min, were completely detached from the dishes and were subcultured on fresh dishes. The adhesion rate of the subculture was >75%.

IT **96910-25-7**
RL: BIOL (Biological study)
(culture dish coating by, liver cell culture adhesion enhancement by)

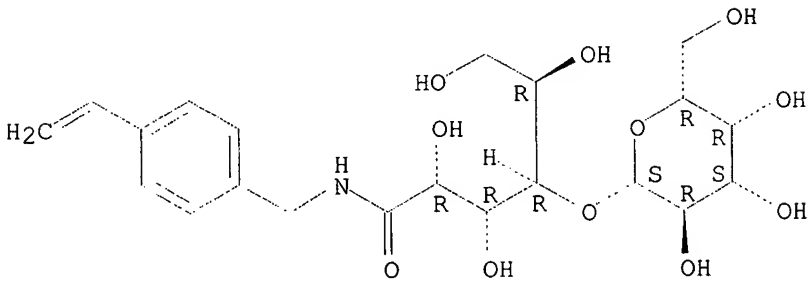
RN 96910-25-7 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



=> d l35 bib abs hitstr tot

L35 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2002 ACS

AN 1996:630529 HCAPLUS

DN 126:8443

TI Synthesis of glycolipids containing disaccharides and two longer alkyl chains and their applications as enzyme modifiers

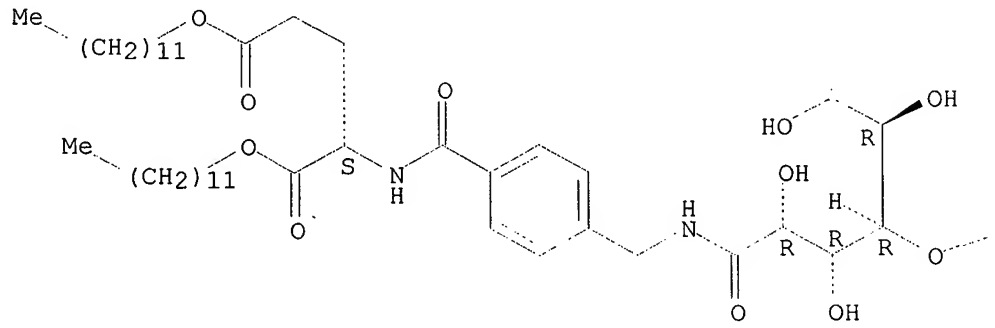
AU Zhang, Zhongzhi; Fukunaga, Kimitoshi; Sugimura, Yoshiaki; Nakao, Katsumi; Shimizu, Toshimi

CS Faculty Engineering, Yamaguchi Univ., Ube, 755, Japan

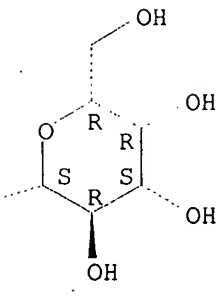
SO Carbohydrate Research (1996), 292, 47-59
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier
DT Journal
LA English
AB The aminolysis between p-(aminomethyl)benzoic acid and lactobiono-1,5-lactone was carried out in Me2SO in quant. yield. The amide formed thus was used directly for the final reaction without isolation of the intermediate from the reaction mixt. This simple one-pot procedure finished a convenient and useful synthesis of the target N-[p-(dialkyl-L-glutamatecarbonyl)-benzyl]actobionamides. The phase-transition temp. of glycolipids was shown to greatly depend on the structure between the hydrophilic moiety and the hydrophobic segment of the glycolipids. The yield of proteins of lipases coated with the glycolipids contg. disaccharides remarkably increased with alkyl-chain length, which was higher than that with glycolipids contg. monosaccharides. The yields were also closely correlated to the origin of the lipases. The enzymic reactivity of lipid-coated lipase PS was seldom affected by the hydrophobic segment of lipids, but its enantioselectivity was mainly affected by the hydrophilic moiety of lipids.
IT **173543-55-0P 173543-56-1P 173543-57-2P**
173543-58-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of glycolipids contg. disaccharides and two longer alkyl chains and their applications as enzyme modifiers)
RN 173543-55-0 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



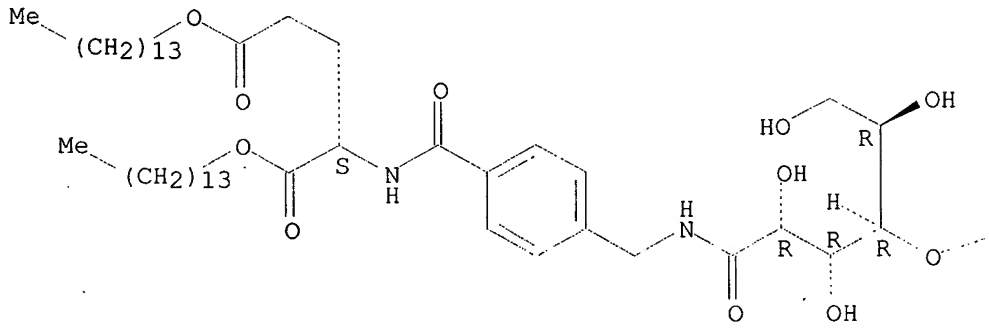
PAGE 1-B



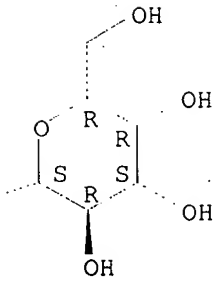
RN 173543-56-1 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



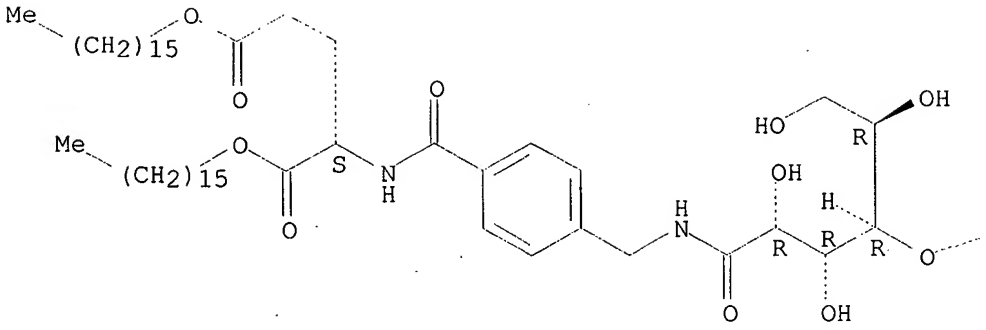
PAGE 1-B



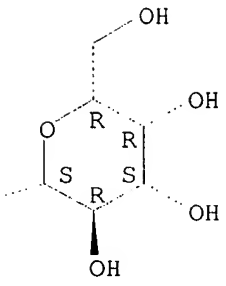
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



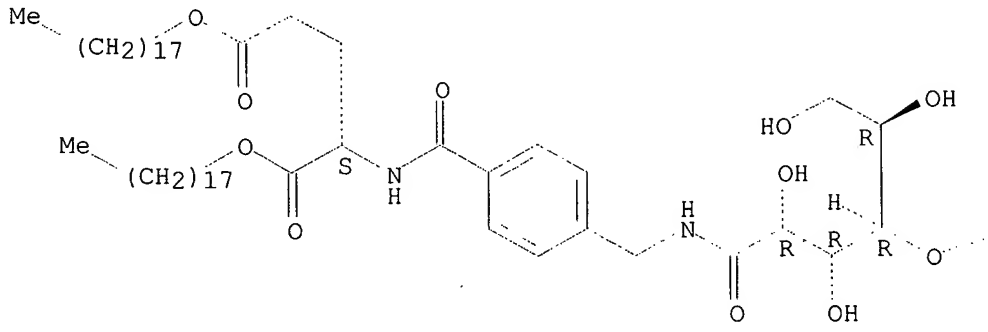
PAGE 1-B



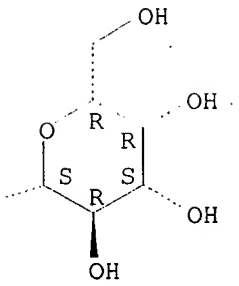
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



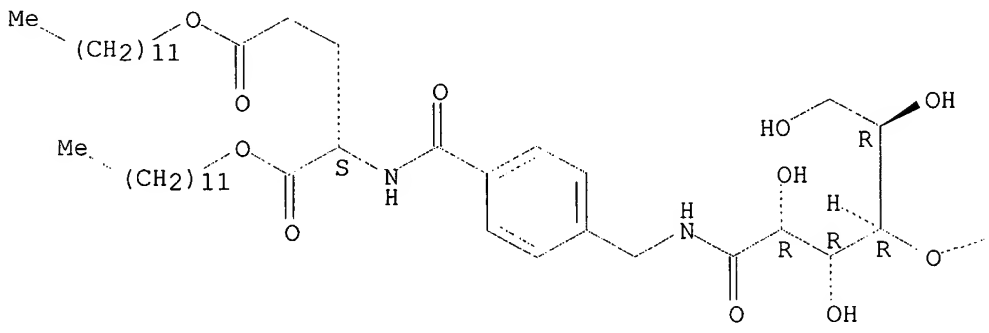
IT **173543-55-0DP**, lipase bound **173543-56-1DP**, lipase bound
173543-57-2DP, lipase bound **173543-58-3DP**, lipase bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of glycolipids contg. disaccharides and two longer alkyl chains and their applications as enzyme modifiers)

RN 173543-55-0 HCAPLUS

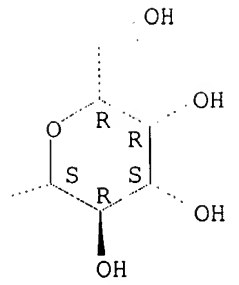
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



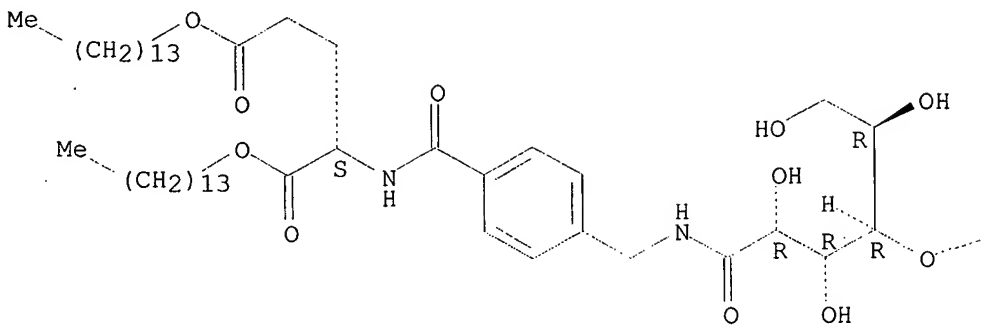
RN 173543-56-1 HCAPLUS

CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX

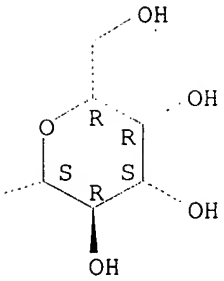
NAME)

Absolute stereochemistry.

PAGE 1-A



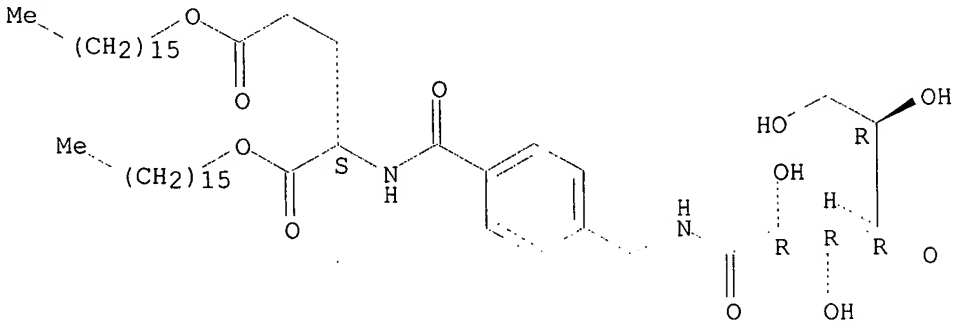
PAGE 1-B



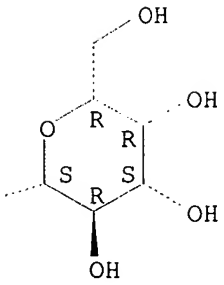
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



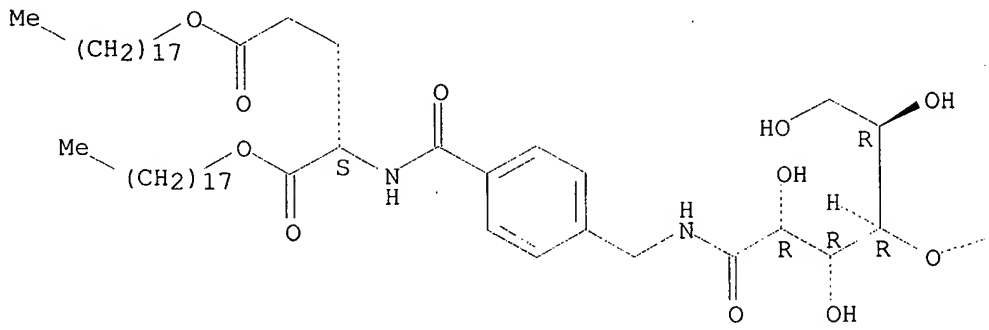
PAGE 1-B



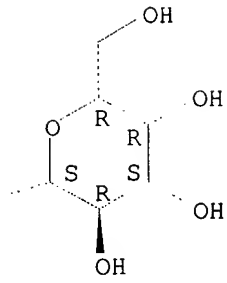
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

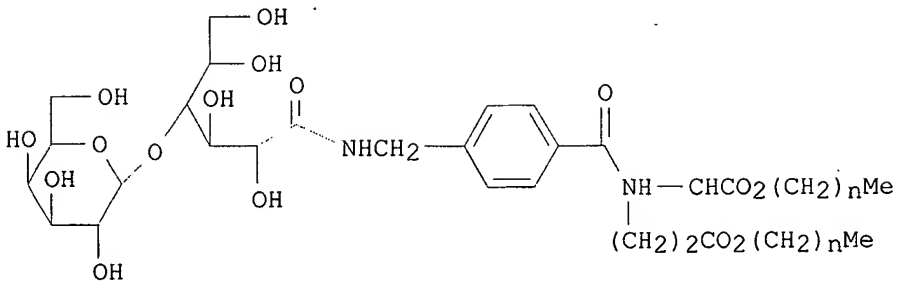


PAGE 1-B



L35 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:959957 HCAPLUS
DN 124:146682
TI Synthesis of model glycolipids having two long alkyl chains
AU Zhang, Zhogzhi; Fukunaga, Kimitoshi; Shimizu, Toshimi; Nakao, Katsumi
CS Faculty of Engineering, Yamaguchi University, Yamaguchi, 755, Japan
SO Carbohydrate Research (1995), 277(2), C1-C3

CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier
DT Journal
LA English
GI



I

AB Amido glycolipids, e.g. I (n = 11, 13, 15, 17), were prepd. from lactobionic acid and L-glutamic acid and fatty alcs. in 3 steps.

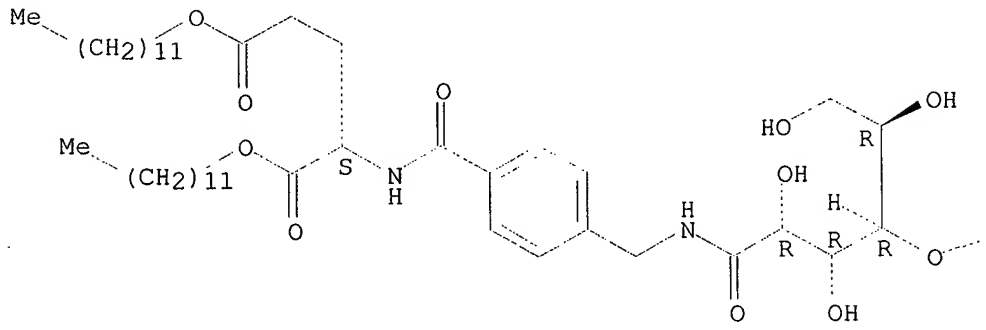
IT **173543-55-0P 173543-56-1P 173543-57-2P**
173543-58-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of glycolipids having two long alkyl chains from lactobionic and glutamic acids)

RN 173543-55-0 HCAPLUS

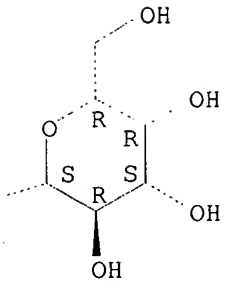
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



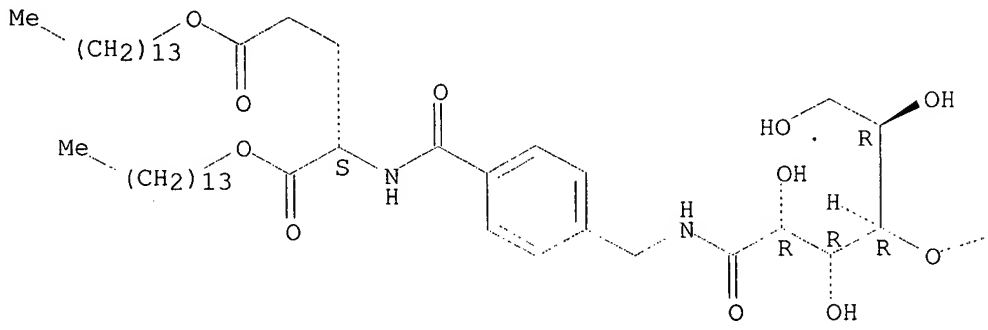
PAGE 1-B



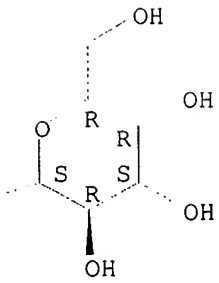
RN 173543-56-1 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



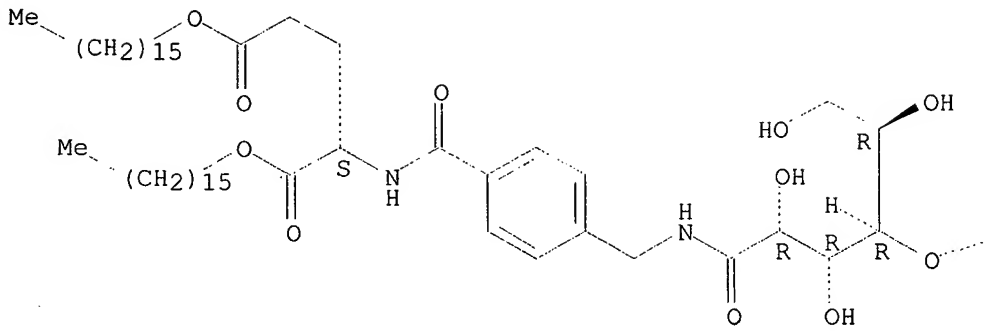
PAGE 1-B



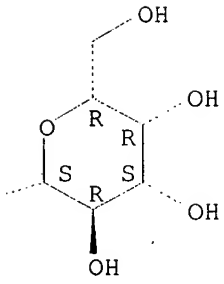
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



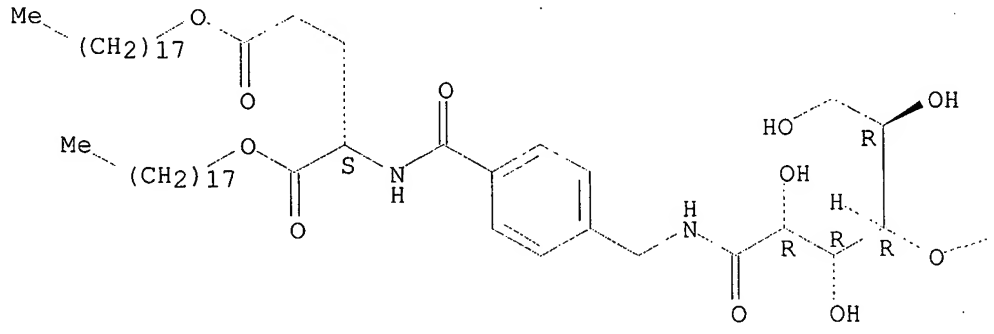
PAGE 1-B



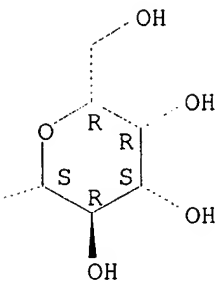
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L35 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2002 ACS
AN 1964:3522 HCAPLUS
DN 60:3522
OREF 60:643h,644g-h,645a-e
TI Preparations and reactions of D-glucaric acid derivatives
AU Bognar, Rezso; Farkas, Istvan; Szabo, Ilona F.; Szabo, Gizella D.
CS Kossuth Lajos Univ., Debrecen, Hung.
SO Magy. Kem. Folyoirat (1963), 69(10), 450-3
DT Journal
LA Unavailable
AB Heating a mixt. of 2.7 g. penta-O-acetyl-D-galactonic acid and 2.7 ml. Cl2CHOMe (I) at 70.degree. for 1 hr., evapg. to dryness, and treating the residue with Et2O gave 92% penta-O-acetyl-D-galactonyl chloride (II), m. 79-80,.degree. [.alpha.]20D 3.4.degree. (c 2.93, CHCl3). A soln. of 7 g. octa-O-acetylcellobionamide in 35 ml. AcOH was treated with N2O3 at 0.degree. until the soln. turned to a const. green. After 4.5 hrs. at room temp., it was added to 70 g. NaHCO3 in 180 ml. H2O, adjusted with 1:1 HCl to pH 3, and extd. with CHCl3 to yield 67% octa-O-acetylcellobionic acid (III), m. 138.degree. (CHCl3-ligroine), [.alpha.]D 8.9.degree. (c 1.76, CHCl3). A mixt. of 1 g. III and 1.5 ml. I was heated at 70.degree. for 1 hr. to give 92.7% octa-O-acetylcellobionyl chloride (IV), m. 115.degree., [.alpha.]D 2.1.degree. (c 2, CHCl3). A mixt. of 1 g. tetra-O-acetylgalactaric acid, 2 ml. I, and a catalytic amt. of anhyd. ZnCl2 refluxed 1 hr., evapd. to dryness at 50.degree. in vacuo, and the residue crystd. from C6H6 gave 75% tetra-O-acetylgalactaryl dichloride (V), m. 178-9.degree.. A mixt. of 1 g. penta-O-acetyl-D-gluconyl chloride (VI), 10 ml. Me2CO, and 0.31 g. NaN8 in 2 ml. H2O (prepd. at 0.degree.), after cooling 20.degree. min., was dild. with H2O to turbidity to yield 72.7% penta-O-acetyl-D-gluconylazide (VII), m. 89.degree. (Me2CO), [.alpha.]D 17.degree. (c 1.71, Me2CO). II (1 g.) in 10 ml. Me2CO treated with 0.4 g. NaN3 in 2 ml. H2O at 0.degree. gave 87% penta-O-acetyl-D-galactonylazide, m. 104-5.degree., [.alpha.]D 2.6.degree. (c 2, Me2CO). IV (0.92 g.) in 10 ml. Me2CO treated with 0.4 g. NaN3 in 2 ml. H2O at 0.degree. gave 63.7% octa-O-acetylcellobionylazide, m. 112.degree., [.alpha.]D 12.9.degree. (c 1.32, CHCl3). Penta-O-acetyl-D-gluconanilide (VIII) was prepd. (a) in 75.7% yield by adding 1 ml. PhNH2 to 1 g. VI in 4 ml. CHCl3 and after standing 1 hr. evapg. to dryness in vacuo, adding EtOH twice to the residue and evapg. again, and treating the residue with 1% HCl, m. 156.degree. (50% EtOH), [.alpha.]D 38.6.degree. (c 1.5, CHCl3), or (b) in 69% yield by adding 0.3 ml. PhNH2 to 0.3 g. VII in 3 ml. EtOAc at 0.degree., after standing 3 hrs. evapg. to dryness and working up as above, [.alpha.]D 41.6.degree. (c 1, CHCl3). VIII (1 g.) in 4 ml. hot abs. MeOH was treated with 0.3 ml. N NaOMe soln. to yield 73% D-gluconanilide, m. 171.degree., [.alpha.]D 51.3.degree. (c 1.13, H2O). VI (1 g.) in 3 ml. Me2CO was added to 0.81 g. p-H2NC6H4SO2NH2 (IX) in 6 ml. Me2CO; after standing 30 min. the mixt. was filtered and evapd., to

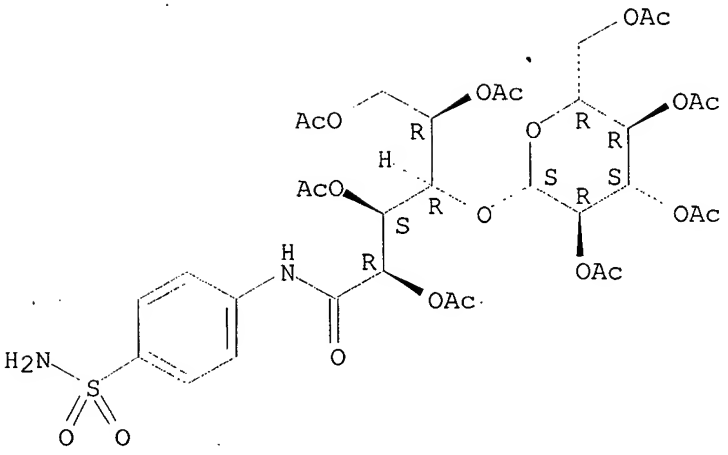
yield 69.6% N4-(penta-O-acetyl-D-gluconyl)sulfanilamide (X), m. 149.degree. (EtOH-H2O), [.alpha.]D 21.5.degree. (c 1.48, Me2CO). X (0.52 g.) in 2 ml. hot abs. MeOH was treated with 0.3 ml. N NaOMe soln., to yield 90.5% (crude) N4-(D-gluconyl)sulfanilamide, m. 198.degree. (H2O), [.alpha.]D 46.8.degree. (c 1, H2O). Penta-O-acetyl-D-galactonanilide, m. 172-3.degree., [.alpha.]D 66.degree. (c 1.45, CHCl3), was prepd. similarly from II in 79.3%, and from the azide in 73% yield. Sapon. gave 64% D-galactonanilide, m. 209.degree., [.alpha.]D 58.degree. (c 0.4, H2O). II (1.61 g.) in 7 ml. Me2CO was added to 1.31 g. IX in 14 ml. Me2CO and the mixt. worked up to yield 87.6% N4-(penta-O-acetyl-D-galactonyl)sulfanilamide, m. 196-7.degree., [.alpha.]D 32.8.degree. (c 1.34, Me2CO). Sapon. gave 75.2% N4-D-galactonylsulfanilamide, m. 221.degree., [.alpha.]D 52.8.degree. (c 1.44, 0.1N NaOH). Octa-O-acetylcellobionanilide was prepd. from III via the acid chloride in CHCl3 in 83.9%, m. 154.degree., [.alpha.]D 43.7.degree. (c 0.8, CHCl3). N4-(Octa-O-acetylcellobionyl)sulfanilamide was prepd. also from the acid chloride in 84.5% yield, m. 126-8.degree., [.alpha.]D 17.4 (c 1, Me2CO). V (0.2 g.) in 15 ml. MeOH was refluxed with 0.5 ml. abs. C5H5N for 3 hrs. and evapd. to 5 ml. to yield 61% dimethyl tetra-O-acetylgalactarate, m. 197.degree.. V (2 g.) in 20 ml. CHCl3 was refluxed with 1.8 ml. PhNH2 for 1 hr. to yield 67.5% tetra-O-acetylgalactaric acid dianilide, m. decomp. about 300.degree.. Sapon. gave 81.9% galactaric acid dianilide, m. 248-9.degree.. V (1.58 g.) in 40 ml. Me2CO was added to 1.28 g. IX in 24 ml. Me2CO, also contg. 1.02 g. C5H5N, to give 69.5% cryst. tetra-O-acetylgalactaric acid di-p-sulfamoylanilide, m. 300-2.degree.. Sapon. gave 82% galactaric acid di-p-sulfamoylanilide, m. 259.degree.. VII (0.72 g.) was refluxed in 20 ml. EtOH for 3 hrs., evapd. to 4 ml. in vacuo, and treated with H2O to yield 53.4% Et N-(D-gluco-pentaacetoxyamyl)urethan, m. 117-18.degree., [.alpha.]D 27.2.degree. (c 1.06, CHCl3), m. 119.5.degree. (EtOH-H2O). VII (3 g.) in 18 ml. abs. C6H6 was refluxed with 1.5 ml. PhCH2OH for 3 hrs., evapd. to dryness in vacuo, abs. EtOH was added twice and evapd. again, the residue in 25 ml. EtOH was hydrogenated in the presence of 0.4 g. 10% Pd-C, and evapd. to dryness in vacuo. The residue was heated in 20 ml. 10% NaOH at 40.degree. 2 hrs., EtOH and AcOH were added, the EtOH was removed in vacuo, and the residue refluxed 1 hr. with 2 ml. PhNHNH2, 2 ml. AcOH, and 10 ml. H2O to yield 14.6% D-erythro-pentose phenylosazone, m. 154-6.degree. (decompn.) (40% EtOH).

IT **97573-30-3**, Gluconanilide, 4-O-.beta.-D-glucopyranosyl-4'-sulfamoyl-, octaacetate **107801-56-9**, Cellobionanilide, octaacetate
(prepn. of)

RN 97573-30-3 HCAPLUS

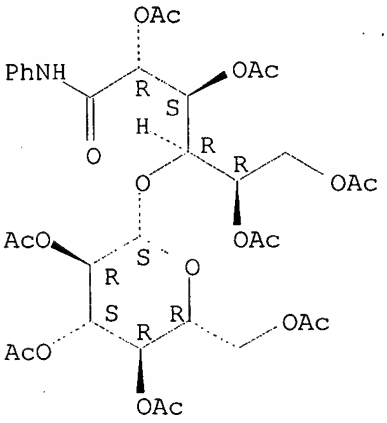
CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 107801-56-9 HCAPLUS
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



L35 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2002 ACS
AN 1963:428779 HCAPLUS
DN 59:28779
OREF 59:5248f-h,5249a-c
TI Derivatives of aldonic and aldaric acids
AU Bognar, Reyso; Farkas, Istvan; Szabo, Ilona F.; Szabo, Giyella D.
CS Univ. Debrecen, Hung.
SO Ber. (1963), 96, 689-93
DT Journal
LA Unavailable
AB Heating 1 g. penta-O-acetylD-galactonic acid (I) and 1 ml. MeOCHCl2 (II) 1 hr. on a water bath, concg. at 50.degree., and recrystg. from Et2O-ligroine gave 92% I chloride, m. 80.degree., [.alpha.]D, 3.4.degree. (c 3, CHCl3). Octa-O-acetylcellobionyl chloride (III), 92.7% yield, m. 115.degree., [.alpha.]D, 2.1.degree. (c 2.4, CHCl3). Heating 1 g. tetra-O-acetylgalactaric acid (IV), 2 g. II, and a trace ZnCl2 1 hr. and recrystg. front C6H6 gave 75% IV diacid chloride, m. 178-9.degree.. Reaction of 1 g. chloride in 10 ml. Me2CO and 0.3-0.4 g. NaN in 2 ml. H2O 30 min. at 0.degree. and crystn. of the ppt. from Me2CO-H2O gave the azide, stable when stored over KOH; the following were prepd. (yield, m.p., and [.alpha.]D given): I azide, 87%, 104-5.degree., 2.6.degree. (c

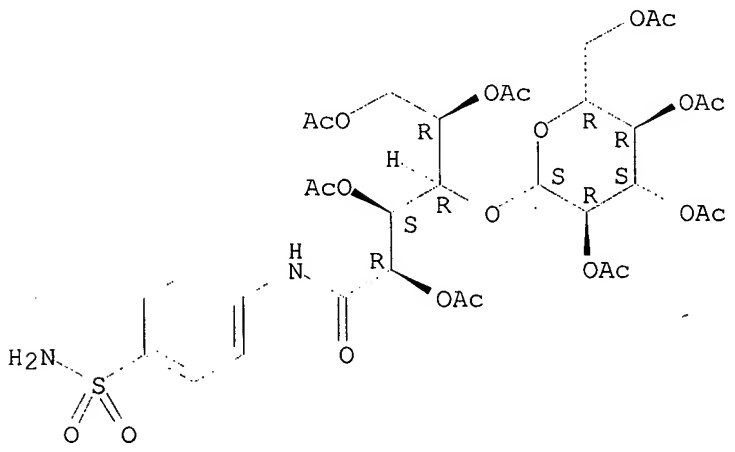
1.95, Me2CO); III azide analog, 63.7%, 112.degree., 12.9.degree. (c 1.32, CHCl3): penta-Oacetyl-D-gluconyl azide (V), 72.7%, 89.degree., 17.degree. (c 1.71, CHCl3). Heating 0.72 g. V with 20 ml. EtOH 3 hrs., concn. to 4 ml., addn. of H2O, and crystn. of the ppt. from aq. EtOH gave 0.4 g. 2,3,4, 5,6-pent a- O- acetyl - N- ethoxycarbonyl -D- gluconamide, m. 11718.degree., [.alpha.]D 27.2.degree. (c 1, CHCl3) the other azides gave sirupy products. Reaction of 1 g. chloride in 4 ml. CHCl3 with 1 ml. PhNH2 1 hr., concn., rubbing the residue with 1% HCl, and crystn. from dil. EtOH gave the anilide [acetylated anilide, % yield, m.p., [.alpha.] D, yield deacetylated anilide (from NaOMe 16 hrs. at 0.degree./, m .p. and [.alpha.] D given]: I anilide, 79.3%, 172-3.degree., 65.2.degree. (c 0.9, CHCl3), 81.4%, 209.degree., 58.degree. (c 0.4, H2O); III anilide analog, 83.9%, 154.degree., 43.7.degree. (c 0.8, CHCl3) sirup, -, -; IV dianilide, 67.5%, decompd. .apprx.300.degree., -, 81.9)%, 248-9% -; V anilide analog, 75.7%, 156.degree., 38.6.degree. (c 1.5, CHCl3), 73%, 171.degree., 51.3.degree. (c 1.13, H2O). Reaction of the chloride in Me,CO with 2 equivs. sulfanilamide (VI) 1 hr., filtration from VI.HCl, concn., and crystn. from dil. EtOH gave the 4-aminosulfonylanilide (Z deriv.). Products (same data given): I Z deriv., 87.6%, 196-7.degree., 32.8.degree. (c 1.3, Me2CO), 75.2%, 221.degree., 52.8.degree. (c 1.44, O.1N NaOH); III Z analog, 84.5%, 126-8.degree., 17.4.degree. (c 1, CHCl3), sirup, -, -; IV bis(Z deriv.), 69.5%, 300-2.degree. (decompn.), -, 82%, 259.degree., -; V Z analog, 69.6%, 149.degree., 21.5.degree. (c 1.5, Me2CO), 90.5%o, 198.degree., 46.8.degree. (c 1, H2O). The IV bis(Z deriv.) was prepd. in C5H5N-Me2CO; this and the IV anilide were deacetylated by 24-hr. shaking with NaOMe at 25.degree.. III, prepd. in 670% yield from 7 g. III amide analog in 35 ml. HOAc satd. at 0.degree. with N2O3 and the mixt. shaken 4.5 hrs. at 25.degree., m. 138.degree., [.alpha.] D) 8.9.degree. (c 1.76, CHCl3). Reaction ot 0.5 g. I azide in 10 ml. EtOAc at 0.degree. with 0.5 ml. PhNH2 3 hrs. gave 69% anilide; V azide analog gave 73% V anilide analog. The azides and VI gave no products. Heating 3 g. V azide analog with 1.5 ml. PhCH2OH at 100.degree., concn, in vacuo, hydrogenation in EtOH over Pd-C 5-7 hrs. at 1 atm., concn. at 50.degree., heating the residue with 10% NaOH at 40.degree. 2 hrs. (NH3 evolved), and treatment with PhNHNH2 and aq. HOAc 1 hr. at 100.degree. gave 15% D-arabinose phenylosazone, m. 154-6.degree..

IT **97573-30-3**, Cellobionanilide, 4'-sulfamoyl-, octaacetate
107801-56-9, Cellobionanilide, octaacetate
(prepn. of)

RN 97573-30-3 HCAPLUS

CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

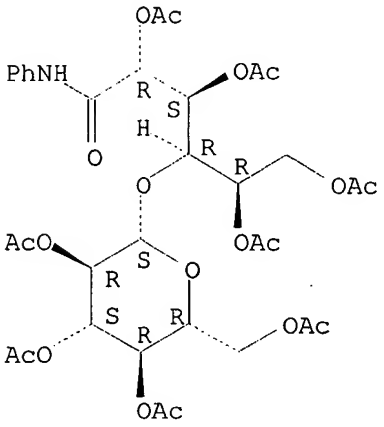
Absolute stereochemistry.



RN 107801-56-9 HCAPLUS

CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.

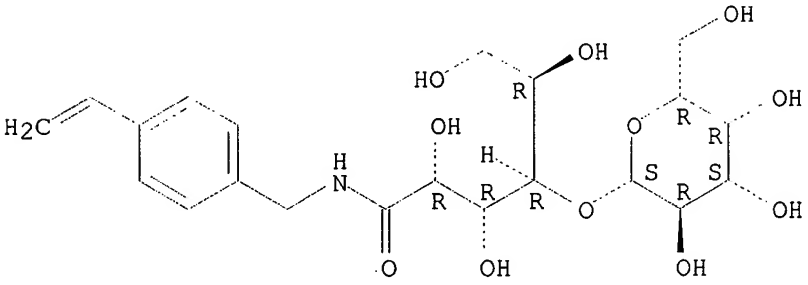


=> d l41 bib abs hitstr tot

L41 ANSWER 1 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:781660 HCAPLUS
DN 130:172935
TI A Quartz-Crystal Microbalance Study of Adsorption Behaviors of Artificial Glycoconjugate Polymers onto Chemically Modified Gold Surfaces and Their Interactions with Lectins
AU Matsuura, Kazunori; Tsuchida, Akiko; Okahata, Yoshio; Akaike, Toshihiro; Kobayashi, Kazukiyo
CS Dep. Mol. Design and Dep. of Biotechnol., Grad. Sch. of Eng., Nagoya University, Chikusa-ku, Nagoya, 464-8603, Japan
SO Bulletin of the Chemical Society of Japan (**1998**), 71(12), 2973-2977
CODEN: BCSJA8; ISSN: 0009-2673
PB Chemical Society of Japan
DT Journal
LA English
AB Adsorption behaviors of two different types of lactose-carrying polystyrenes, poly(p-vinylbenzamido-.beta.-lactose) (PNLA, 1) and poly(N-p-vinylbenzyllactonamide) (PVLA, 2), onto cast films of polystyrene and self-assembled monolayers (SAMs) of 1-octadecanethiol and cystamine were investigated by applying a quartz-crystal microbalance (QCM). The amphiphilic artificial glycoconjugate polymers were strongly adsorbed on the hydrophobic surfaces, i.e. a polystyrene cast film and a SAM of 1-octadecanethiol, from their aq. soln. according to the Langmuir adsorption isotherm (the apparent assocn. const.: Ka.apprxeq.107M-1). On the other hand, they were adsorbed little on a hydrophilic SAM of cystamine. The satd. adsorption amts. of the polymers on the hydrophobic surfaces were 2-5 times larger than that calcd. on the basis of an assumption of closed-packing monolayer adsorption, which suggests that the adsorbed polymers may take a loop-train-tail conformation. A SAM of 1-octadecanethiol adsorbed two times more of each polymer than a polystyrene cast film did. .beta.-Galactoside-specific RCA120and PNA lectins bound to the surfaces coated with the galactose-bearing polymers according to the Langmuir adsorption isotherm (Ka.apprxeq.106M-1). The binding was stronger than that obsd. by the inhibition of hemagglutinating activity (about 104M-1).
IT **96886-53-2**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(quartz-crystal microbalance study of adsorption behaviors of artificial glycoconjugate polymers onto chem. modified gold surfaces and their interactions with lectins)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



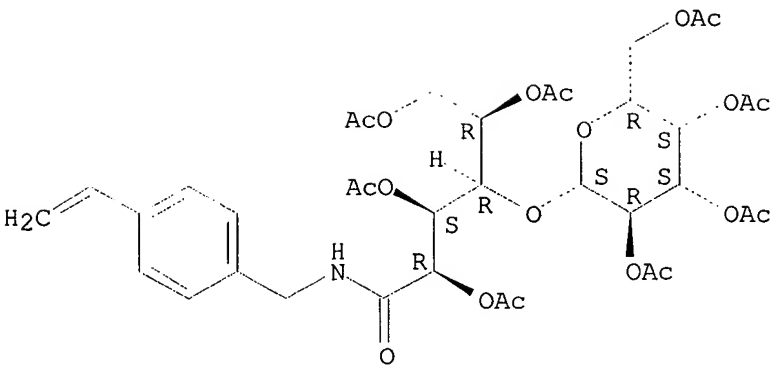
RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 2 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:666062 HCAPLUS
DN 129:331108
TI Free-radical polymerization of a sugar residue-carrying styryl monomer with a lipophilic alkoxyamine initiator. Synthesis of a well-defined novel glycolipid
AU Ohno, Kohji; Fukuda, Takeshi; Kitano, Hiromi
CS Inst. Chemical Research, Kyoto Univ., Uji, 611, Japan
SO Macromolecular Chemistry and Physics (**1998**), 199(10), 2193-2197
CODEN: MCHPES; ISSN: 1022-1352
PB Huethig & Wepf Verlag
DT Journal
LA English
AB Controlled polymn. of N-p-vinylbenzyl-2,3,5,6-tetra-O-acetyl-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-D-gluconamide (Ac-VLA) was achieved by the nitroxide-mediated free-radical polymn. with a lipophilic alkoxyamine initiator with a dioctadecyl group in 1,2-dichloroethane at 90.degree.. The polymn. proceeds in a living fashion, providing Ac-VLA polymers with low polydispersity. The hydrolysis of the polymers results in well-defined glycopolymer-carrying amphiphiles, viz., artificial glycolipids.
IT **201863-24-3DP**, (dioctadecylcarbamoylphenyl)ethane-terminated, hydrolyzed
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of sugar-substituted lipophilic terminated polystyrene and interaction of artificial glycolipids with lectins)
RN 201863-24-3 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-(2,3,4,5-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 201863-22-1
CMF C37 H47 N O19

Absolute stereochemistry.



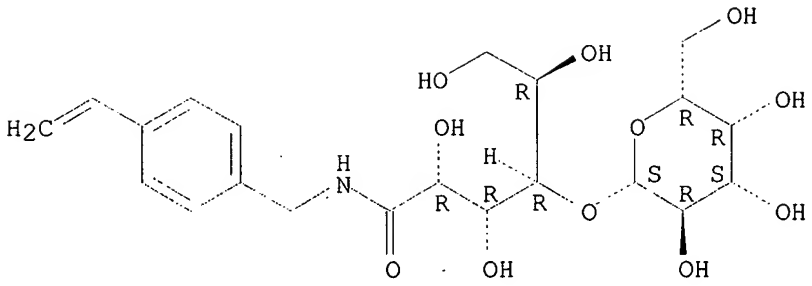
L41 ANSWER 3 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:285165 HCAPLUS
DN 129:51624
TI Gene transfection of multicellular spheroid of hepatocytes on an artificial substrate
AU Watanabe, Yoshifumi; Ajioka, Itsuki; Akaike, Toshihiro
CS Department of Biomolecular Engineering, Tokyo Institute of Technology, Yokohama, 226, Japan
SO Cytotechnology (**1998**), 26(1), 65-78
CODEN: CYTOER; ISSN: 0920-9069
PB Kluwer Academic Publishers
DT Journal
LA English
AB The handling of hepatocytes, a major cell population in the liver, is an important technique in both liver tissue engineering and hepatol. However, these cells are so fragile that it has been impossible to harvest hepatocytes with high viability from tissue culture dishes after a period of culture in vitro. In this study, we employed an artificial substrate for transfection of multilayer hepatocytes and harvested these cells with high viability after transfection. Hepatocytes cultured on an amphiphilic artificial substrate form multilayer aggregates (spheroids) in the presence of growth factors during gene transfection with cation liposomes. Compared to cells cultured on a collagen-coated plate, these spheroids are easily harvested with high viability by pipetting in EDTA soln. In addn., these spheroids rapidly spread on collagen after transfer from the artificial substrate, demonstrating that hepatocytes in the center of the spheroids were viable. Epidermal growth factor (EGF) increased the transfection efficiency into hepatocytes while hepatocyte growth factor (HGF) alone did not increase the efficiency. However, HGF synergistically increased the effect of EGF on transfection. Interestingly, this transfection required the process of spheroid formation because the gene was not transfected once the spheroid formation completed or under conditions where hepatocytes did not form spheroids. This method using spheroidal hepatocytes for in vitro transfection is promising for the development of ex vivo gene therapy.
IT **96910-25-7**, PVLA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(gene transfection of multicellular spheroid of hepatocytes on artificial substrate)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2

CMF C21 H31 N O11

Absolute stereochemistry.

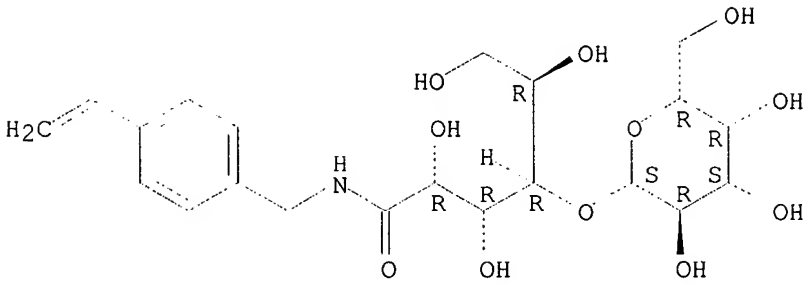


L41 ANSWER 4 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:163163 HCAPLUS
DN 128:281627
TI Hepatocytes cultured on lactose-substituted polystyrene become resistant to cytokine-induced cellular injury
AU Liang, Jun F.; Akaike, Toshihiro
CS National Key Laboratory of Biomembrane and Membrane Engineering, School of Life Science and Engineering, Tsinghua University, Beijing, 100084, Peop. Rep. China
SO Biotechnology Letters (1998), 20(2), 173-176
CODEN: BILED3; ISSN: 0141-5492
PB Chapman & Hall
DT Journal
LA English
AB Responses of hepatocytes on various extracellular matrixes to injury by cytokine and endotoxin were studied. Hepatocytes cultured on poly-N-p-vinylbenzyl-D-lactonamide (PVLA) surfaces became resistant to IFN-.gamma.-induced cell injury and also resisted the stimulation from endotoxin and cytokines, and thus showed low nitric oxide synthesis ability. Damage to transplanted cells in engineered tissue/organ can thus be prevented by culturing cells on appropriate synthetic extracellular matrixes.
IT **96910-25-7**, PVLA
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(PVLA; hepatocytes cultured on an artificial extracellular matrix become resistant to endotoxin-induced cellular injury)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

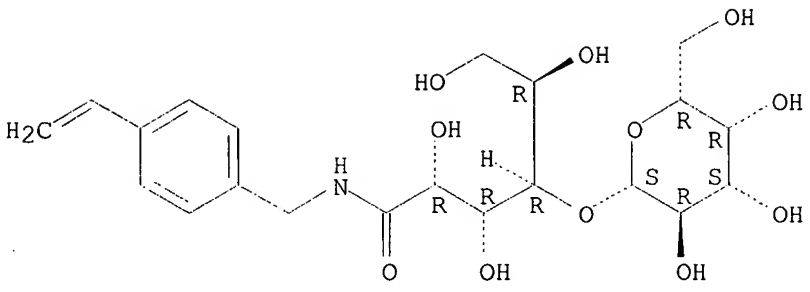
CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



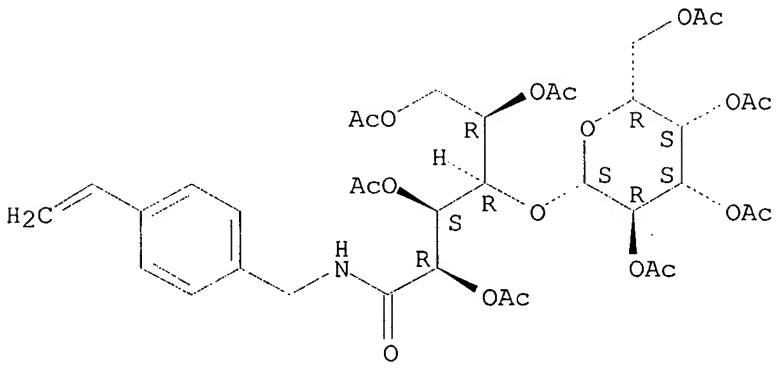
L41 ANSWER 5 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:89816 HCAPLUS
DN 128:128334
TI Synthesis of a Well-Defined Glycopolymer by Nitroxide-Controlled Free Radical Polymerization
AU Ohno, Kohji; Tsujii, Yoshinobu; Miyamoto, Takeaki; Fukuda, Takeshi; Goto, Mitsuaki; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Institute for Chemical Research, Kyoto University, Uji, 611, Japan
SO Macromolecules (**1998**), 31(4), 1064-1069
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB This is the first report of the synthesis of a well-defined glycopolymer by free radical polymn. N-(p-vinylbenzyl)-[O-b-D-galactopyranosyl-(1.fwdarw.4)]-D-gluconamide (VLA), a styrene deriv. with an oligosaccharide moiety, was polymd. in N,N-dimethylformamide soln. at 90 .degree.C by the nitroxide-mediated free radical polymn. technique. Acetylated VLA gave polymers with a mol. wt. from about 2000 to 40 000, an Mw/Mn ratio of about 1.1 in all cases, and a conversion of up to about 90%, where Mw and Mn are the wt.- and no.-av. mol. wts. Indispensable for this success were (1) the use of di-tert-Bu nitroxide (DBN) rather than other nitroxides such as TEMPO, (2) the acetylation of VLA, and (3) the use of a radical initiator DCP (dicumyl peroxide) as an accelerator. DBN provided a well-controlled polymn. of VLA at 90 .degree.C (VLA becomes unstable at higher temps., e.g., >120 .degree.C). The acetylation effectively prevented the chain transfer that leads to dead polymers and broad polydispersities. DCP remarkably accelerated the rate of polymn. (the rate of chain extension), which otherwise was impractically slow, without causing any appreciable broadening of polydispersity.
IT **96886-53-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(acetylation and polymn. of)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **201863-22-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; synthesis of a well-defined polystyrene-type glycopolymer by nitroxide-controlled free radical polymn.)
RN 201863-22-1 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-(2,3,4,6-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

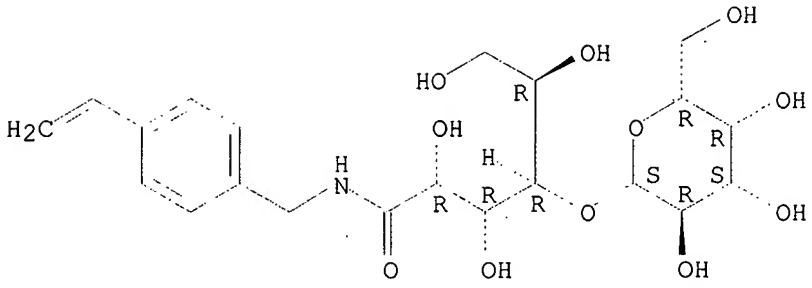


IT **96910-25-7P 201863-24-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of a well-defined polystyrene-type glycopolymer by nitroxide-controlled free radical polymn.)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

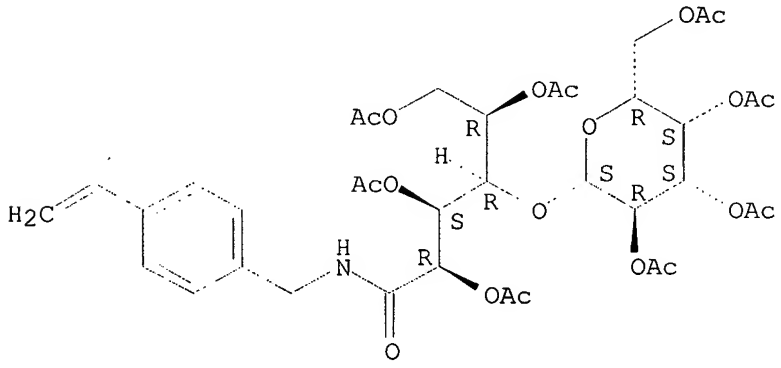


RN 201863-24-3 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-(2,3,4,5-tetra-O-acetyl-.beta.-D-galactopyranosyl)-, 2,3,5,6-tetraacetate, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 201863-22-1
CMF C37 H47 N O19

Absolute stereochemistry.



L41 ANSWER 6 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:436273 HCAPLUS
DN 127:181003
TI Specific interaction between erythrocytes and a glucose-carrying polymer mediated by the type-1 glucose transporter (GLUT-1) on the cell membrane
AU Park, Keun-Hong; Takei, Ryotaro; Goto, Mitsuaki; Maruyama, Atsushi; Kobayashi, Akira; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Department of Biomolecular Engineering, Faculty of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, 226, Japan
SO Journal of Biochemistry (Tokyo) (**1997**), 121(6), 997-1001
CODEN: JOBIAO; ISSN: 0021-924X
PB Japanese Biochemical Society
DT Journal
LA English
AB A reducing glucose-carrying polymer, called poly[3-O-(4'-vinylbenzyl)-D-glucose] (PVG), interacted with erythrocytes carrying the type-1 glucose transporter (GLUT-1) on the cell membrane. The cooperative interaction between a no. of GLUT-1s and a no. of reducing 3-O-methyl-D-glucose moieties on a PVG polymer chain is responsible for the increase in the interaction with erythrocytes. In contrast to the PVG homopolymer, other sugar-carrying polymers showed lower interaction with erythrocytes. The affinity of erythrocytes and PVG was studied using FITC-labeled

glycopolymers. The fluorescence intensity significantly changed, whereas a small change in fluorescence intensity was obsd. for other homopolymers. The specific interaction between GLUT-1 on erythrocytes and the PVG polymer carrying reducing glucose was suppressed by the inhibitors, phloretin, phloridzin, and cytochalasin B, and a monoclonal antibody to GLUT-1. Direct observation by confocal laser microscopy with the use of FITC-labeled PVG demonstrated that erythrocytes interacted with the sol. form of the PVG polymer via GLUT-1, while fluorescence labeling of the cell surface was prevented on pretreatment with the monoclonal antibody to GLUT-1.

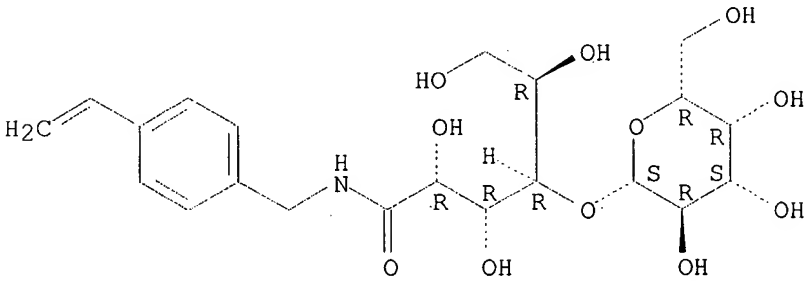
IT **96910-25-7 118085-68-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(specific interaction between erythrocytes and a glucose-carrying polymer mediated by the type-1 glucose transporter on the cell membrane)

RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

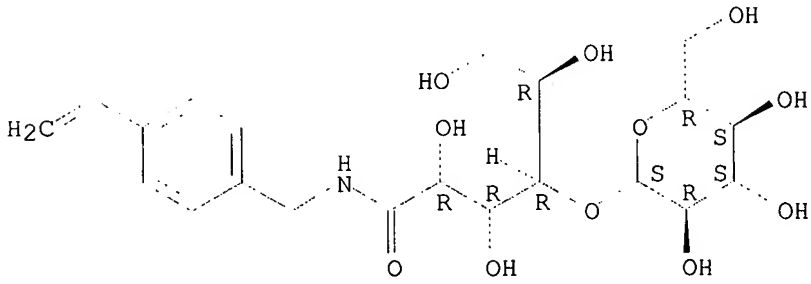


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.

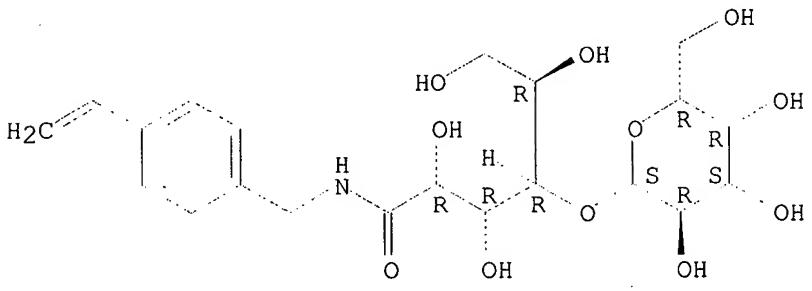


L41 ANSWER 7 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:431277 HCAPLUS
DN 127:136023
TI New polymeric inhibitor of galactosyl transferase
AU Hatanaka, Kenichi; Takeshige, Hideyuki; Kanno, Ken-Ichi; Maruyama, Atsushi; Oishi, Junji; Kajihara, Yasuhiro; Hashimoto, Hironobu
CS Tokyo Institute of Technology, Faculty of Bioscience and Biotechnology, Yokohama, 226, Japan
SO Journal of Carbohydrate Chemistry (1997), 16(4&5), 667-672
CODEN: JCACDM; ISSN: 0732-8303
PB Dekker
DT Journal
LA English
AB 2',3'-Di-O-acetyluridine 5'-p-styrenesulfonate was synthesized by the reaction of 2',3'-di-O-acetyluridine with p-styrenesulfonyl chloride and polymd. After removal of acetyl groups, the polymeric was shown by NMR spectroscopy and gel permeation chromatog. to be poly(uridine 5'-p-styrenesulfonate). This uridine-contg. polymer was tested against the galactosyl transferase that synthesizes lactose in the presence of .alpha.-lactalbumin. The polymeric compd. did inhibit the enzyme with 75% inhibition requiring 120 .mu.M which is only one percent of the concn. of glycosyl donor substrate (UDP-galactose, 12 mM).
IT **96910-25-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of uridine-contg. polymer as inhibitor of galactosyl transferase)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



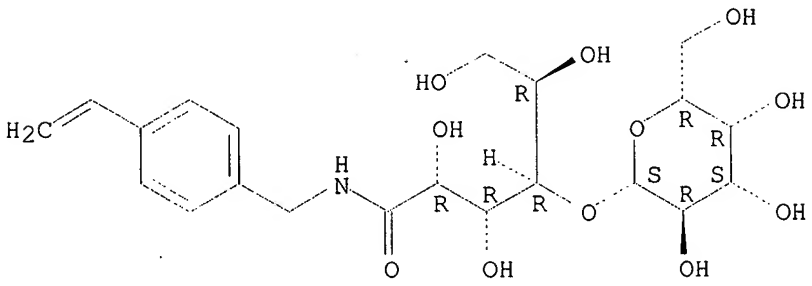
L41 ANSWER 8 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:343343 HCAPLUS
DN 127:78170
TI Efficient immobilization of proteins by modification of plate surface with polystyrene derivatives
AU Suzuki, Noriko; Quesenberry, Michael S.; Wang, Judy K.; Lee, Reiko T.; Kobayashi, Kazukiyo; Lee, Yuan C.
CS Dep. Biology & McCollum-Pratt Inst., Johns Hopkins Univ., Baltimore, MD, 21218, USA
SO Analytical Biochemistry (1997), 247(2), 412-416

CODEN: ANBCA2; ISSN: 0003-2697
PB Academic
DT Journal
LA English
AB Immobilization of proteins on microplate wells by simple adsorption (e.g., for ELISA) is convenient, but it can be inefficient, esp. if proteins are hydrophilic or small in size. This problem was alleviated by the use of polyvinylbenzyl lactonoylamide (PVLA). PVLA is strongly adsorbed to the hydrophobic well surface, and its lactonamide part can be oxidized with periodate to generate aldehydro groups. Proteins are then immobilized covalently to the aldehydo groups by reductive amination under mild conditions. Using this method, henceforth termed the PVLA method, alk. phosphatase (AP) was immobilized to microplates six- to sevenfold greater than by simple adsorption (as measured by activity). Similarly, the activity of immobilized mannose-binding protein A (MBP-A) was 4- to 8-fold higher by the PVLA method than by simple adsorption. The PVLA-coated plates needed as little as 200 ng of MBP-A per well to have a sufficient amt. of MBP-A immobilized for the measurement of binding of 125I-labeled mannosylated bovine serum albumin (125I-Man-BSA), but unmodified plates required as much as 20 .mu.g/well MBP-A to obtain the same response. Recommended conditions for the PVLA method are 40 .mu.l of 2 mg/mL of PVLA for coating, 1 mM NaIO4 for the generation of the aldehydo groups, and a 2-h reductive amination at 37.degree. between pH 8 and 9 for the protein ligation.
IT **96910-25-7**, PVLA
RL: NUU (Other use, unclassified); USES (Uses)
(efficient immobilization of proteins by modification of plate surface with polystyrene derivs.)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



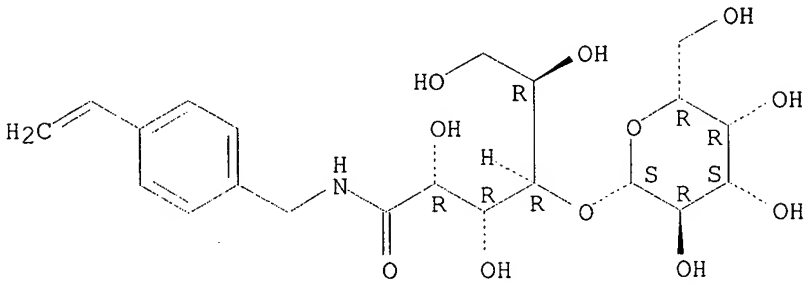
L41 ANSWER 9 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:108276 HCAPLUS
DN 126:229496
TI Simple preparation of nanoparticles coated with carbohydrate-carrying polymers
AU Cho, C. S.; Jeong, Y. I.; Ishihara, T.; Takei, R.; Park, J. U.; Park, K. H.; Maruyama, A.; Akaike, T.
CS Dep. Polymer Engineering, Chonnam Natl. Univ., Kwangju, 500-757, S. Korea
SO Biomaterials (**1997**), 18(4), 323-326
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier

DT Journal
LA English
AB Nanoparticles bearing carbohydrate chains on the surface can be prepd. by the simple diafiltration method. The nanoparticles prepd. by the present method displayed high yield, no-aggregation formation, small size, narrow size distribution, and one-step procedure. Also, the high d. carbohydrate chains on the particles can be recognized by liver cells.
IT **96910-25-7**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(simple prepn. of nanoparticles coated with carbohydrate-carrying polymers)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 10 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:630529 HCAPLUS
DN 126:8443
TI Synthesis of glycolipids containing disaccharides and two longer alkyl chains and their applications as enzyme modifiers
AU Zhang, Zhongzhi; Fukunaga, Kimitoshi; Sugimura, Yoshiaki; Nakao, Katsumi; Shimizu, Toshimi
CS Faculty Engineering, Yamaguchi Univ., Ube, 755, Japan
SO Carbohydrate Research (**1996**), 292, 47-59
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier
DT Journal
LA English
AB The aminolysis between p-(aminomethyl)benzoic acid and lactobiono-1,5-lactone was carried out in Me2SO in quant. yield. The amide formed thus was used directly for the final reaction without isolation of the intermediate from the reaction mixt. This simple one-pot procedure finished a convenient and useful synthesis of the target N-[p-(dialkyl-L-glutamatecarbonyl)-benzyl]actobionamides. The phase-transition temp. of glycolipids was shown to greatly depend on the structure between the hydrophilic moiety and the hydrophobic segment of the glycolipids. The yield of proteins of lipases coated with the glycolipids contg. disaccharides remarkably increased with alkyl-chain length, which was higher than that with glycolipids contg. monosaccharides. The yields were also closely correlated to the origin of the lipases. The enzymic reactivity of lipid-coated lipase PS was seldom affected by the hydrophobic segment of lipids, but its enantioselectivity

was mainly affected by the hydrophilic moiety of lipids.

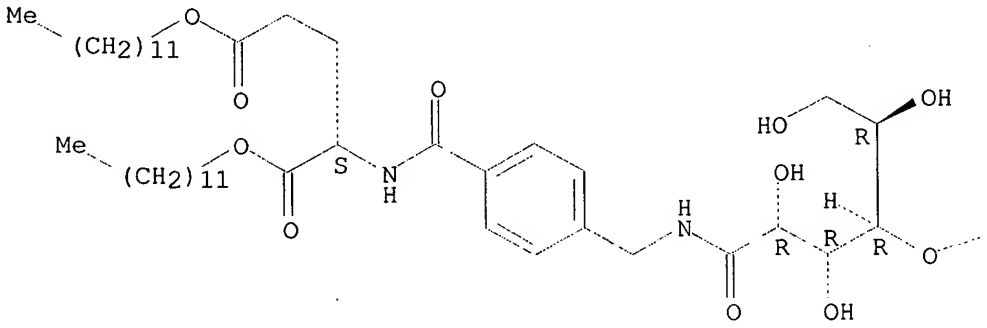
IT **173543-55-0P 173543-56-1P 173543-57-2P**
173543-58-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of glycolipids contg. disaccharides and two longer alkyl chains and their applications as enzyme modifiers)

RN 173543-55-0 HCAPLUS

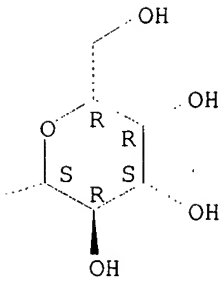
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

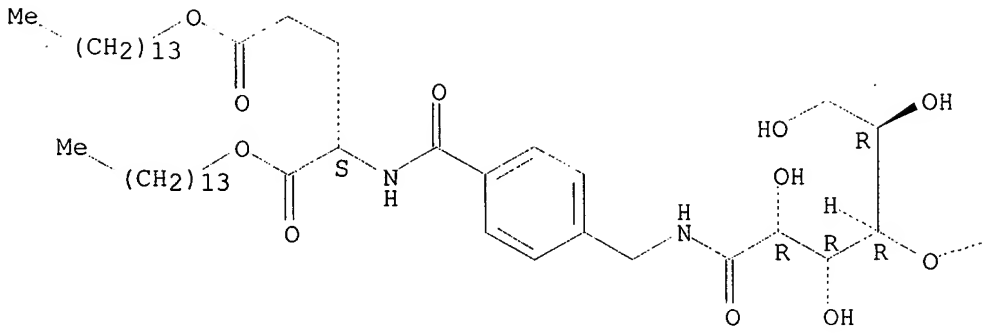


RN 173543-56-1 HCAPLUS

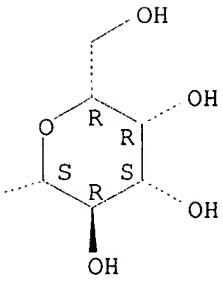
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



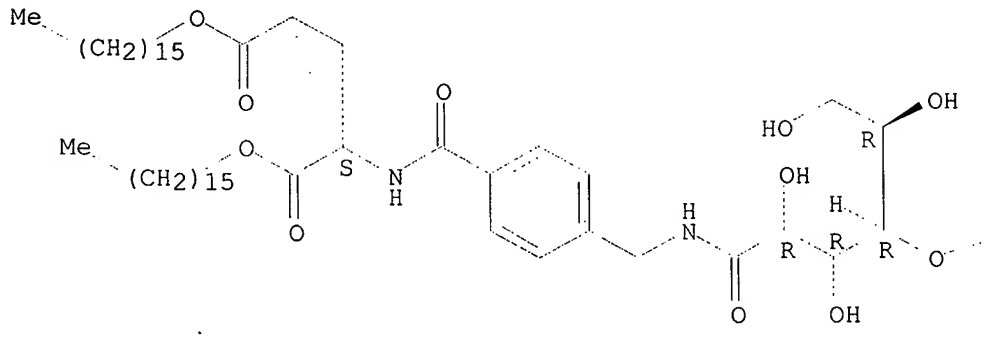
PAGE 1-B



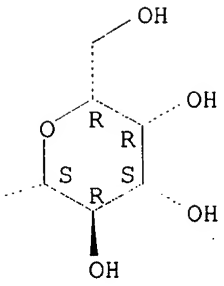
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



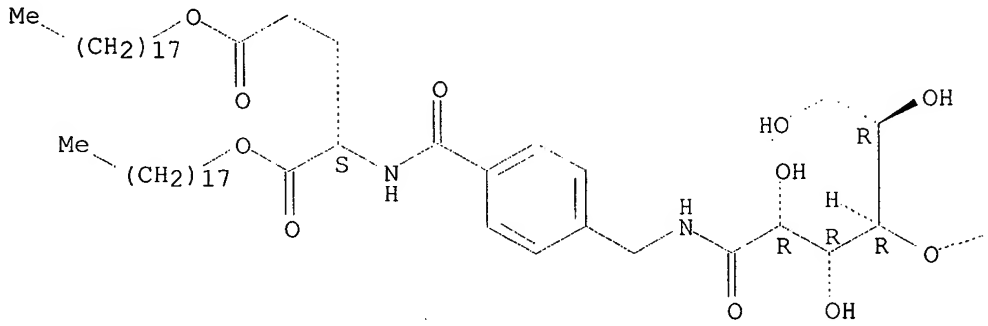
PAGE 1-B



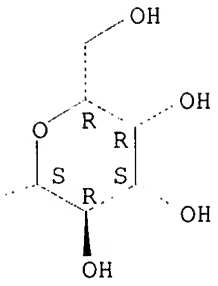
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



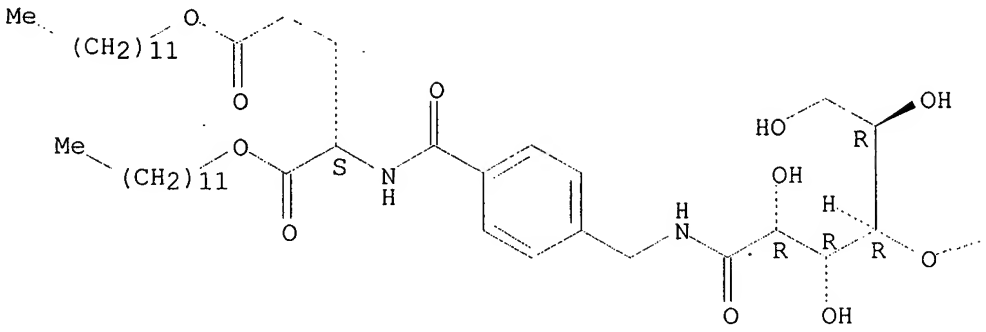
PAGE 1-B



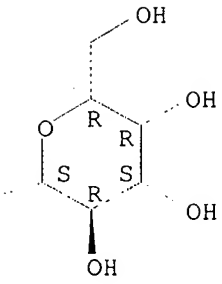
IT **173543-55-0DP**, lipase bound **173543-56-1DP**, lipase bound **173543-57-2DP**, lipase bound **173543-58-3DP**, lipase bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of glycolipids contg. disaccharides and two longer alkyl chains and their applications as enzyme modifiers)
RN 173543-55-0 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



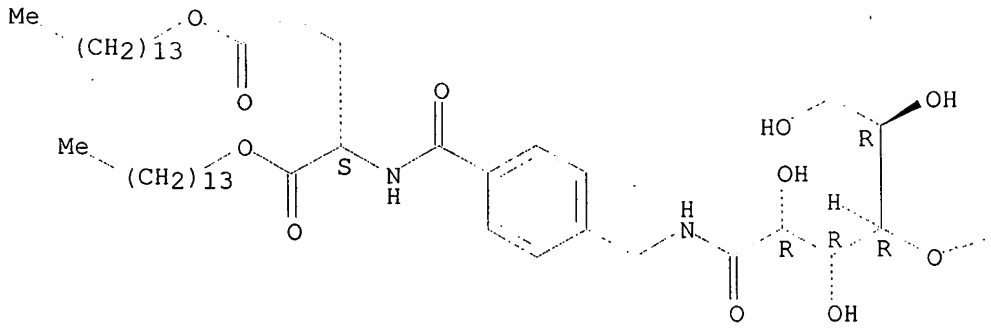
PAGE 1-B



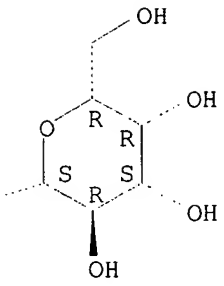
RN 173543-56-1 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



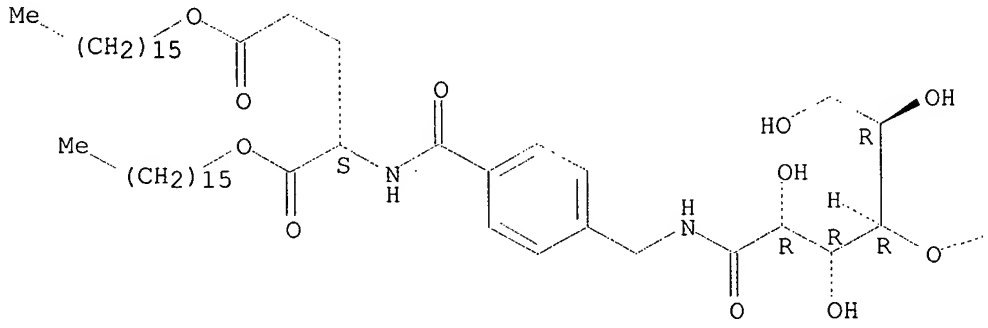
PAGE 1-B



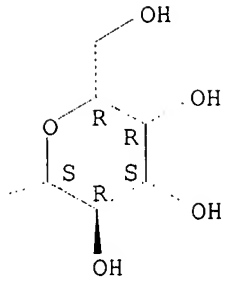
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



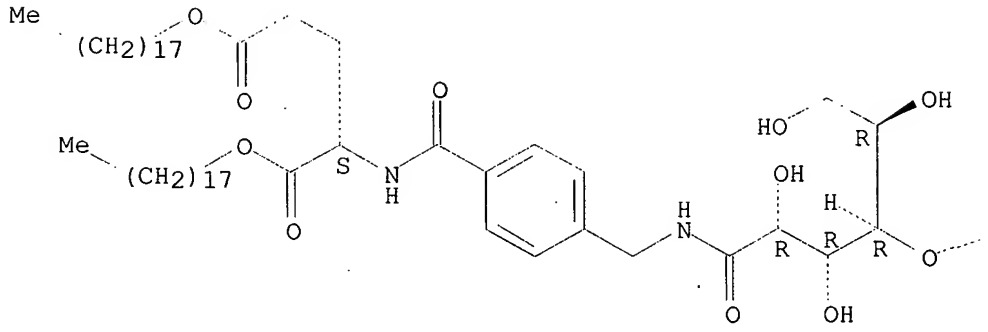
PAGE 1-B



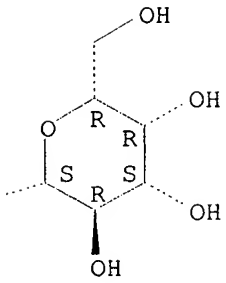
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



L41 ANSWER 11 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:570144 HCAPLUS
DN 125:284741
TI Effect of ligand orientation on hepatocyte attachment onto the poly(N-p-vinylbenzyl-o-.beta.-D-galactopyranosyl-D-gluconamide) as a model ligand of asialoglycoprotein
AU Cho, C. S.; Goto, M.; Kobayashi, A.; Kobayashi, K.; Akaike, T.
CS Dep. of Polymer Eng., Chonnam National Univ., Kwangju, 500-757, S. Korea
SO Journal of Biomaterials Science, Polymer Edition (**1996**), 7(12), 1097-1104
CODEN: JBSEEA; ISSN: 0920-5063
PB VSP
DT Journal
LA English
AB The orientation effect of galactose ligand on hepatocyte attachment was investigated. Poly(N-p-vinylbenzyl-o-.beta.-D-galactopyranosyl-D-gluconamide)(PVLA), a .beta.-galactose-carrying styrene homopolymer, was used as a model ligand for the asialoglycoprotein receptors on hepatocytes. PVLA was transferred onto the poly(.gamma.-benzyl L-glutamate) (PBLG) or PBLG/poly(ethylene glycol) Langmuir -Blodgett (LB) films as the monolayer level. The dichroic fluorescence values of the confocal microscope indicated that the PVLA transferred onto the LB films was located with a preferential orientation of its mol. axes with regard to the direction of the .alpha.-helix of polypeptide hepatocyte recognized well-oriented galactose moieties of the surface of PVLA through asialoglycoprotein receptors.
IT **96910-25-7**, PVLA
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

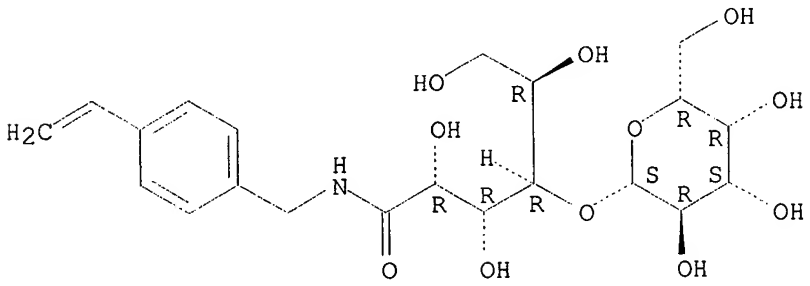
(Biological study); PROC (Process)
(ligand orientation effect on hepatocyte attachment onto poly(N-p-vinylbenzyl-o-.beta.-D-galactopyranosyl-D-gluconamide) as model ligand of asialoglycoprotein)

RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



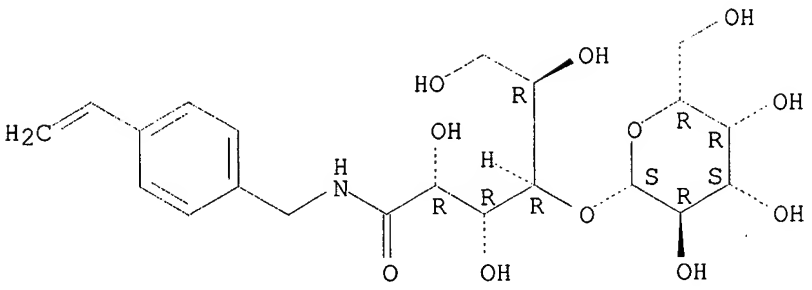
L41 ANSWER 12 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:522058 HCAPLUS
DN 125:204267
TI Release of cell modulators from nanoparticles coated with carbohydrate-carrying polymers
AU Cho, C. S.; Jeong, Y. I.; Takei, R.; Asayama, S.; Ishihara, T.; Maruyama, A.; Akaike, T.
CS Department of Polymer Engineering, Chonnam National University, Kwangju, 500-757, S. Korea
SO Proceedings of the International Symposium on Controlled Release of Bioactive Materials (**1996**), 23rd, 397-398
CODEN: PCRMEY; ISSN: 1022-0178
PB Controlled Release Society, Inc.
DT Journal
LA English
AB Nanoparticles were prepd. from poly(.gamma.-benzyl L-glutamate) or poly(lactic acid) by a diafiltration method using a carbohydrate-carrying polystyrene of amphiphilic polymer which served as both an emulsifier and a surface coating. It appears that poly(.gamma.-benzyl L-glutamate) nanoparticles coated with high d. .beta.-galactose residue in the poly(vinylbenzyllactonamide) as the carbohydrate-carrying polystyrene were selectively recognized by hepatocytes. Also, this result implies that carbohydrate chains on nanoparticles influenced receptor-mediated endocytosis.
IT **96910-25-7**, PVLA
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(release of cell modulators from nanoparticles coated with carbohydrate-carrying polymers)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2

CMF C21 H31 N O11

Absolute stereochemistry.

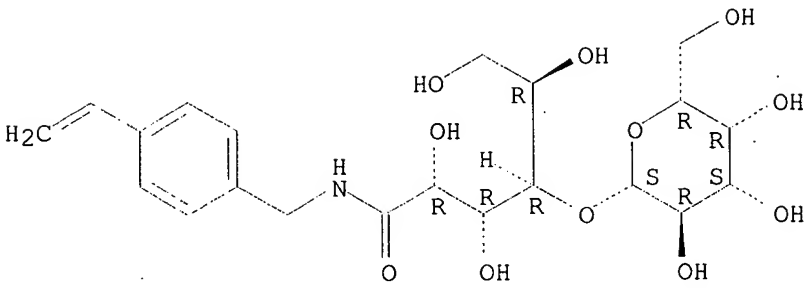


L41 ANSWER 13 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:195081 HCAPLUS
DN 124:336965
TI An efficient method of bone marrow transplantation. II. Design of adsorbent column for depletion of T lymphocytes and concentration of stem cells from donor bone marrow
AU Sato, Tatsuya; Tatsuzawa, Osamu; Akaike, Toshihiro
CS Dep. Pediatr., Jikei Univ. Sch. Med., Tokyo, 105, Japan
SO Tokyo Jikeikai Ika Daigaku Zasshi (**1996**), 111(1), 9-18
CODEN: TJIDAH; ISSN: 0375-9172
DT Journal
LA Japanese
AB Depletion of T lymphocytes and concn. of stem cells from donor bone marrow are useful for avoiding graft vs. host disease (GVHD) and increasing efficiency of bone marrow transplantation. We surveyed a technique using lactose-carrying polystyrenes e.g. poly-p-N-vinylbenzyl-D-lactonamide (PVLA). We found by flow cytometric anal. that PVLA coated beads had specifically attached to T cells in the presence of soybean agglutinin (SBA). We examd. the adhesion of peripheral blood mononuclear cells to poly-N-allyl-.beta.-lactonamide (PALA) coated beads packed into a column, and found that adhesion of T cells had increased time dependently, and appropriate SBA concn. was 1 mg/mL. Concn. of stem cells examd. by colony formation and CD34 pos. cells had increased after treatment with the column. In conclusion, polymer-coated beads packed into the column that carry .beta.-D-galactose are useful for the treatment of donor bone marrow.
IT **96910-25-7**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(beads coated with; design of adsorbent column for depletion of T-cells and concn. of stem cells from donor bone marrow)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

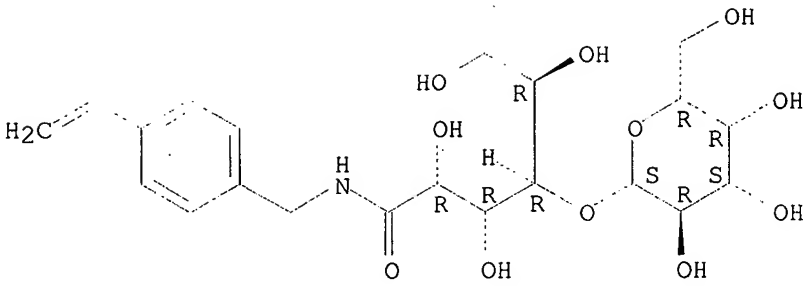
CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 14 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:968376 HCAPLUS
DN 124:81382
TI Structural effect of galactose residue in synthetic glycoconjugates on interaction with rat hepatocytes
AU Yura, Hirofumi; Goto, Mitsuaki; Okazaki, Hidemi; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Kanagawa Academy of Science and Technology, Sakado, Japan
SO Journal of Biomedical Materials Research (**1995**), 29(12), 1557-65
CODEN: JBMRBG; ISSN: 0021-9304
PB Wiley
DT Journal
LA English
AB N-p-Vinylbenzyl-O-.beta.-D-galactopyranosyl-(1,4)-D-gluconamide (PVLA) has been used as an asialoglycoprotein model polymer. Rat hepatocytes expressing asialoglycoprotein receptors are capable of binding to hydrophobic plastic dishes coated with PVLA. PVLA, water-sol. polystyrene derivs. bearing galactose residues preferentially adsorb to plastic plates made of polystyrene rather than those of poly(Me methacrylate). Hence, the authors modified chitosan beads with linear chains composed of a long alkyl or Ph moiety to study the effect of structural variations of adsorbed PVLA and investigated the extent of hepatocyte attachment to the hydrophobic beads coated with PVLA. The attachment was independent of the amt. of immobilized PVLA; rather, it was dependent on the hydrophobicity of the beads with PVLA. To simplify the surface of the hydrophobic beads with PVLA, galactopyranoses were covalently linked to chitosan beads via hydrophobic spacer arms, and hepatocyte attachment was compared among the prepd. beads. The beads with spacer arms contg. phenylalanine and a phthalic moiety showed increased hepatocyte attachment, which was elicited by galactose residues on the beads. These results suggest that rotational restriction or stiffness and hydrophobicity due to the Ph moiety are essential to enhance the specificity of terminal galactose in PVLA. This anal. contributes to the design and optimization of an artificial ligand for cellular receptors recognizing sugar moieties.
IT **96886-53-2D**, immobilized **96910-25-7 118085-68-0**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(structural effect of galactose residue in synthetic glycoconjugates on interaction with rat hepatocytes)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

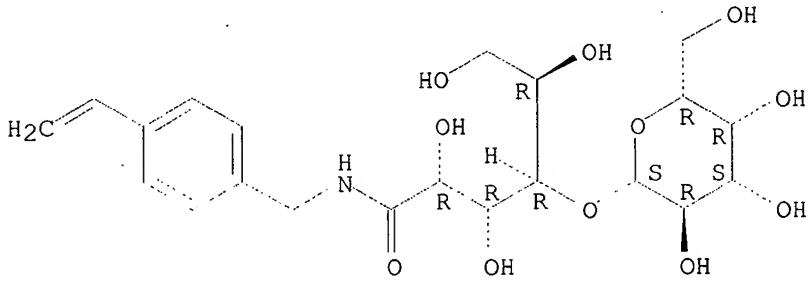


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

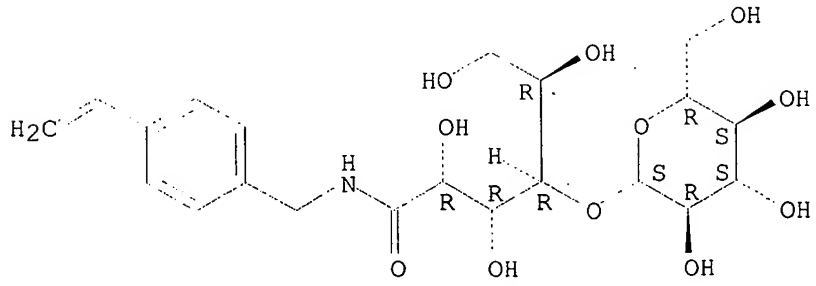


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

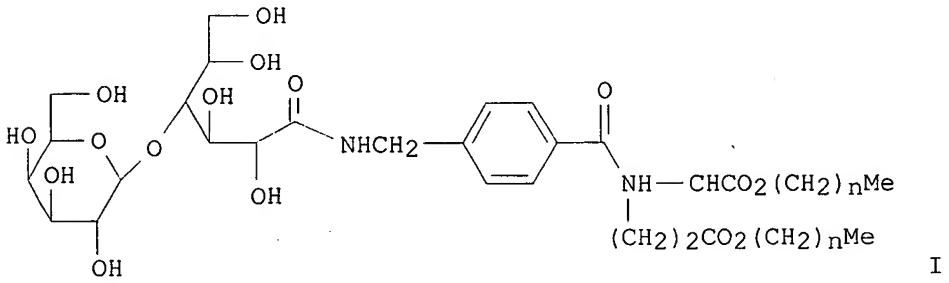
CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 15 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:959957 HCAPLUS
DN 124:146682

TI Synthesis of model glycolipids having two long alkyl chains
AU Zhang, Zhogzhi; Fukunaga, Kimitoshi; Shimizu, Toshimi; Nakao, Katsumi
CS Faculty of Engineering, Yamaguchi University, Yamaguchi, 755, Japan
SO Carbohydrate Research (**1995**), 277(2), C1-C3
CODEN: CRBRAT; ISSN: 0008-6215
PB Elsevier
DT Journal
LA English
GI

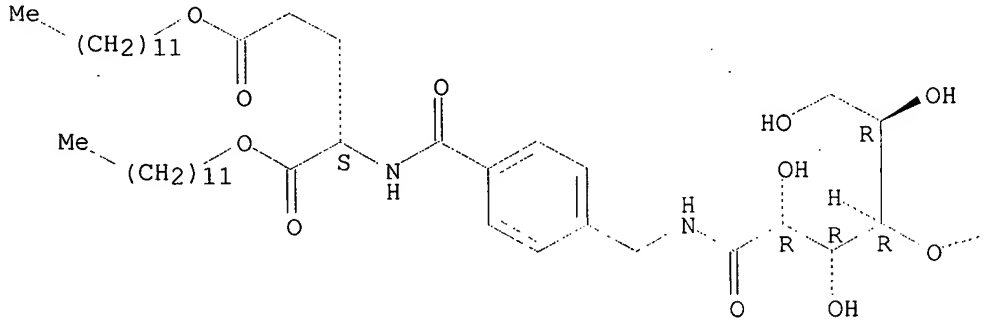


I

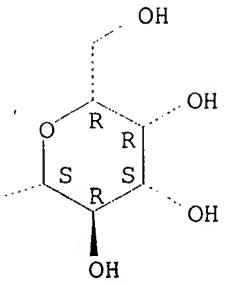
AB Amido glycolipids, e.g. I (n = 11, 13, 15, 17), were prepd. from lactobionic acid and L-glutamic acid and fatty alcs. in 3 steps.
IT **173543-55-0P 173543-56-1P 173543-57-2P**
173543-58-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of glycolipids having two long alkyl chains from lactobionic and glutamic acids)
RN 173543-55-0 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, didodecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



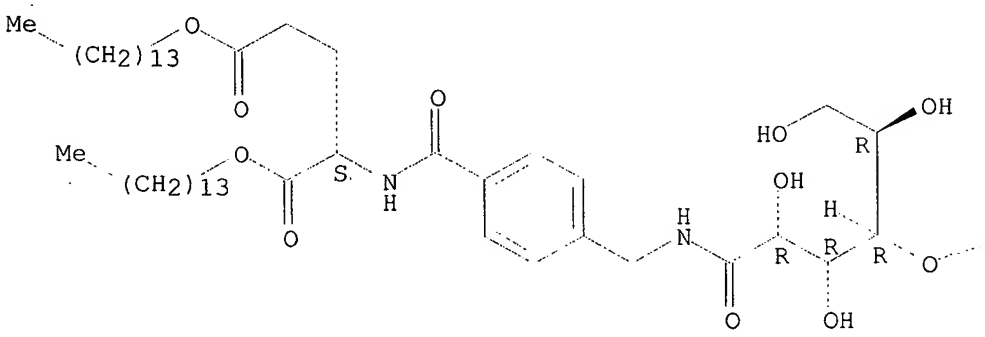
PAGE 1-B



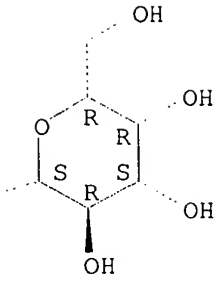
RN 173543-56-1 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, ditetradecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



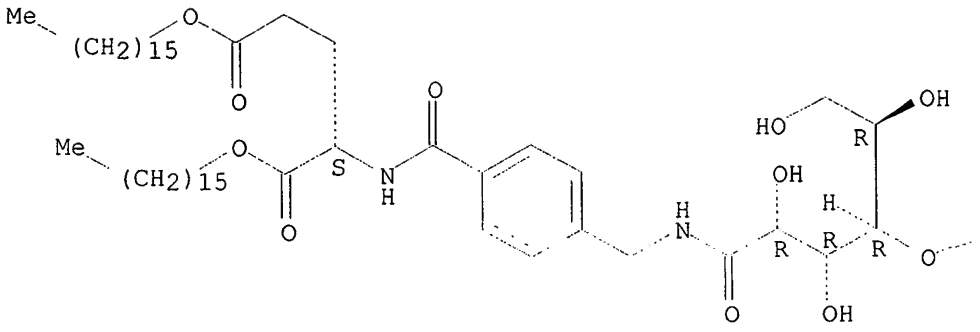
PAGE 1-B



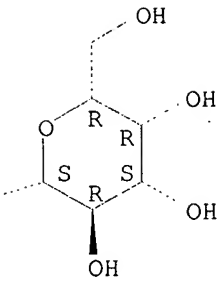
RN 173543-57-2 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dihexadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



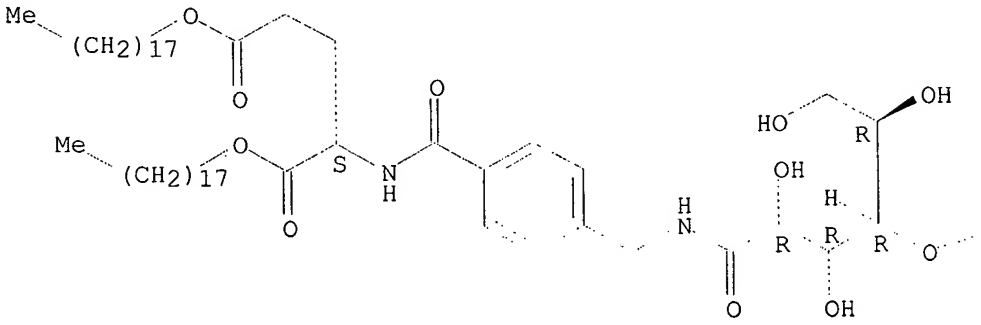
PAGE 1-B



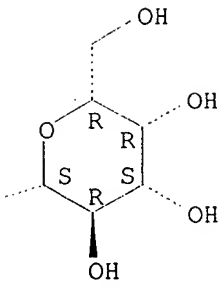
RN 173543-58-3 HCAPLUS
CN L-Glutamic acid, N-[4-[[(4-O-.beta.-D-galactopyranosyl-D-gluconoyl)amino]methyl]benzoyl]-, dioctadecyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

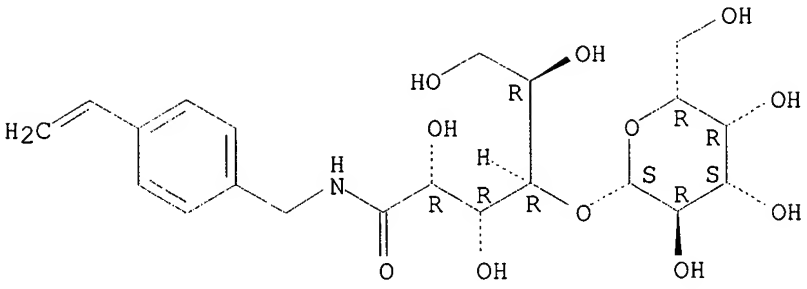


L41 ANSWER 16 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:894144 HCAPLUS
DN 123:350149
TI Experimental studies on the development of a hybrid bioartificial liver. Effects of plasma of patients with fulminant hepatic failure on the liver functions of cultured rat hepatocytes
AU Naito, Tomoo
CS Sch. Med., Gifu Univ., Gifu, 500, Japan
SO Gifu Daigaku Igakubu Kiyo (**1995**), 43(2), 282-91
CODEN: GDIKAN; ISSN: 0072-4521
DT Journal
LA Japanese
AB We investigated whether sufficient function of viable hepatocytes could be maintained even in plasma of patients with fulminant hepatic failure(FHF), with uses of monolayer hepatocytes cultured on collagen-coated plastic dishes and spherical-shaped hepatocytes on a synthetic substratum, poly-N-p-vinylbenzyl-D-lactonamide (PVLA). Plasma of patients with FHF did not affect liver-specific functions of either monolayer or spherical-shaped hepatocytes, including protein synthesis, albumin secretion, metab. of amino acids, ureogenesis and gluconeogenesis. Primary hepatocytes in plasma of FHF or culture medium supplemented with epidermal growth factor and insulin showed the higher hepatic functions than those in normal human plasma. Comparing monolayer hepatocytes with spherica-shaped ones, the latter outperformed the former at confluence in all categories of the hepatic functions both in FHF plasma and in culture medium. In conclusion, the system of primary cultured hepatocytes to form the spherical shape has potential use for the development of a hybrid bioartificial liver for treating a patient with potentially reversible liver dysfunction or for providing liver support as a bridge to liver transplantation.
IT **96910-25-7**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effects of plasma of human with fulminant hepatitis on liver functions of cultured hepatocyte on PVLA for bioartificial liver)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

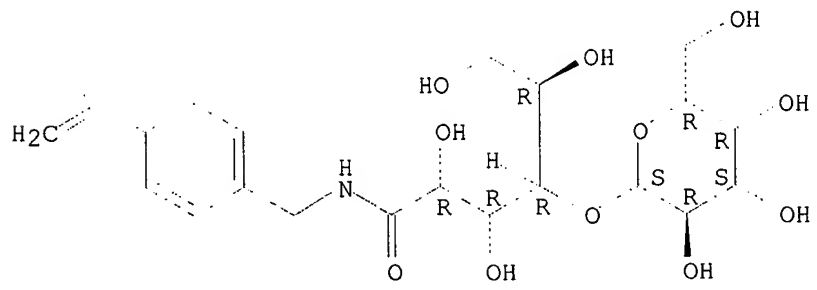
CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 17 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:701413 HCAPLUS
DN 123:286977
TI A study on the synthesis of amphiphilic styrene copolymers having functional groups on the side chain
AU Lee, Jung-Bock; Kim, Chang-Bae
CS Dept. of Chem., Nat'l Industrial Tech. Institute, Kwacheon, 427-010, S. Korea
SO Kongop Hwahak (**1994**), 5(5), 801-7
CODEN: KOHWE9; ISSN: 1225-0112
PB Korean Society of Industrial and Engineering Chemistry
DT Journal
LA Korean
AB Lactose-substituted styrene monomer, N-(p-vinylbenzyl)-D-lactonamide (VLA) was prepd. by coupling the lactose lactone with p-vinylbenzylamine (I). The carboxyl group of biotin was activated with N-hydroxysuccinimide in the presence of N,N'-dicyclohexylcarbodiimide. Subsequently, biotin-substituted styrene monomer, N-(p-vinylbenzyl)-biotinamide (VBA), was prepd. by amidation of the activated biotin with I. Poly(vinylbenzyl-lactonamide-co-vinylbenzylbiotinamide) was synthesized through radical polymn. of VLA and VBA at various molar ratios with yield of 67-71%. The copolymers were amphiphilic and had hydrophilic lactose, hydrophobic vinylbenzyl, and biotin site within the structure. The monomers and copolymer were studied by IR and 13C-NMR.
IT **96886-53-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of monomers for amphiphilic styrene copolymers having functional groups on side chain)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



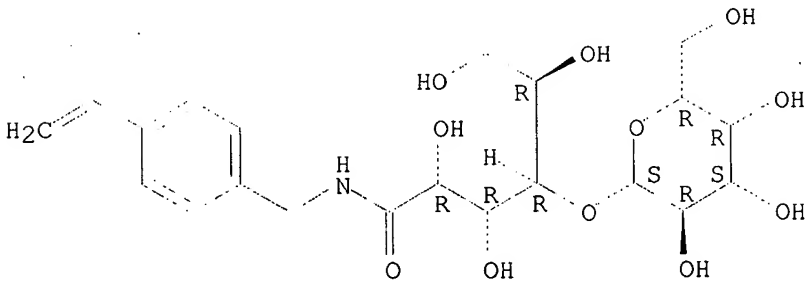
L41 ANSWER 18 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:559528 HCAPLUS

DN 122:311468
TI Regulation of hepatic genes and liver transcription factors in rat hepatocytes by extracellular matrix
AU Nagaki, Masahito; Shidoji, Yoshihiro; Yamada, Yasuhiro; Sugiyama, Akihiko; Tanaka, Manabu; Akaike, Toshihiro; Ohnishi, Hiroo; Moriwaki, Hisataka; Muto, Yasutoshi
CS 1st Dep. Int. Med., Gifu Univ. Sch. Med., Gifu, 500, Japan
SO Biochemical and Biophysical Research Communications (1995), 210(1), 38-43
CODEN: BBRCA9; ISSN: 0006-291X
PB Academic
DT Journal
LA English
AB Culturing hepatocytes on different extracellular matrix (ECM) substrata including tissue culture plastic, type I collagen, Engelbreth-Holm-Swarm (EHS) gel and poly-N-p-vinylbenzyl-D-lactonamide (PVLA) regulated levels of mRNAs for cytoskeleton and liver-specific genes. In hepatocytes on EHS gel, the ratio of albumin/.beta.-actin in mRNA levels was high and serially increased during the culture period, while the ratio was low and declined in cells on plastic substratum, collagen or PVLA. The changes in cellular levels of albumin mRNA which were regulated by ECM corresponded with those in two liver-specific transcription factors, hepatocyte nuclear factors-1 and -4, which control the transcription of liver-specific genes. These results suggest that cell-matrix interaction may det. and maintain the differentiated phenotype of hepatocytes by regulating liver-specific transcription factors.
IT **96910-25-7**, PVLA
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(regulation of liver specific serum protein mRNA and transcription factors in hepatocytes by extracellular matrix)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



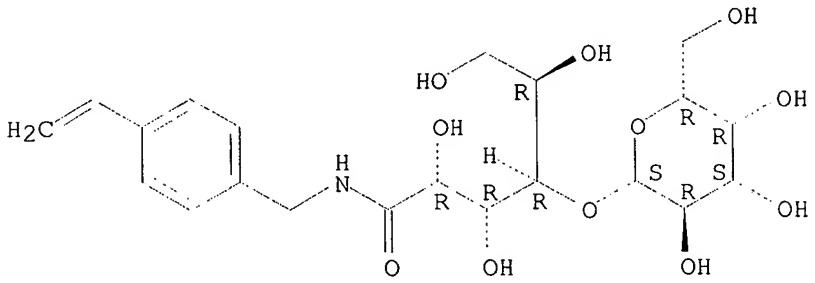
L41 ANSWER 19 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1995:223806 HCAPLUS
DN 122:27185
TI Preparation of nanoparticles bearing high density carbohydrate chains using carbohydrate-carrying polymers as emulsifier
AU Maruyama, A.; Ishihara, T.; Adachi, N.; Akaike, T.
CS Department of Biomolecular Engineering, Tokyo Institute of Technology, Yokohama, 227, Japan

SO Biomaterials (**1994**), 15(13), 1035-42
CODEN: BIMADU; ISSN: 0142-9612
PB Elsevier
DT Journal
LA English
AB A new method of prepg. nanoparticles bearing high d. carbohydrate chains on their surface is described. Carbohydrate-bearing nanoparticles of poly(lactic acid) or polystyrene were prepd. by the solvent evapn. method using a carbohydrate-carrying polystyrene deriv. which served as both an emulsifier and a surface coating. The diam. of the obtained nanoparticles ranged from 80 to 300 nm depending on the concn. of the polystyrene deriv. As the concn. of the polystyrene derivs. increased the nanoparticle diam. decreased, indicating that the polystyrene derivs. worked as an emulsifier. The obtained particles were specifically aggregated by carbohydrate-specific lectin, showing that the polystyrene deriv. was retained on the particle surfaces and expressed carbohydrate residues. The d. of carbohydrates on the particle surfaces was detd. to be 3-5 mols. per square nanometer. The particles prepd. by the present method were stably dispersed and hardly aggregated in aq. media during storage and centrifugal treatment compared with the post-coated particles that were prepd. by adsorbing polystyrene particles with the polystyrene deriv. In vitro study with isolated rat hepatocytes revealed that surface carbohydrate chains were recognized by hepatocytes.
IT **96910-25-7**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(prepn. of nanoparticles bearing carbohydrate chains using carbohydrate-carrying polymers as emulsifier)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



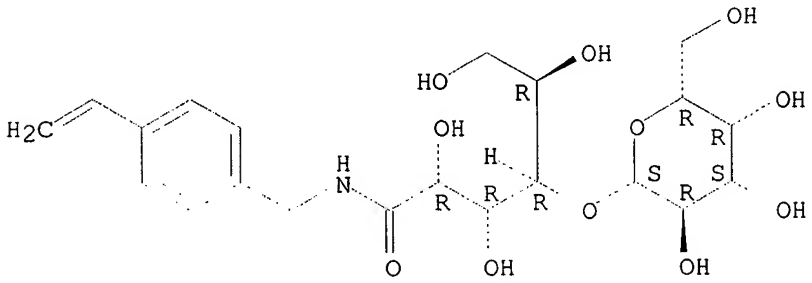
L41 ANSWER 20 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:708200 HCAPLUS
DN 121:308200
TI Cellular distribution of polymer particles bearing various densities of carbohydrate ligands
AU Adachi, N.; Maruyama, A.; Ishihara, T.; Akaike, T.
CS Fac. Biosci. Biotechnology, Inst. Technology, Yokohama, 227, Japan
SO Journal of Biomaterials Science, Polymer Edition (**1994**), 6(5), 463-79
CODEN: JBSEEA; ISSN: 0920-5063
DT Journal

LA English
AB The d. effect of carbohydrate-ligands on nanometer-order particles upon cellular binding and internalization was investigated. Poly(vinylbenzyl-.beta.-D-lactonamide) (PVLA), a .beta.-galactose-carrying styrene homopolymer, was employed as a model ligand for the asialoglycoprotein receptors on hepatocytes. In order to control the surface ligand densities on the particles, PVLA was mixed with poly(vinylbenzyl-D-gluconamide) (PVGA), a PVLA analog without .beta.-galactose, and their mixts. were used as surface coatings. The particles with low ligand densities assocd. more with hepatocytes than high ligand d. particles. The surface d. of the ligand considerably influenced the cellular distribution. Most of the particles bearing high densities of ligands were found inside the cells, whereas particles with low ligand densities were found on the plasma membrane surface of the hepatocytes. These results were indicative of high densities of ligands on the surface requiring hepatocytes to internalize the particles promptly by receptor-mediated endocytosis, while low densities of ligands on the surface was not sufficient to internalize, but allowed particles to bind on the cell surface. These findings enabled us to regulate cellular distributions of particles by controlling ligand d. on the surface.
IT **96910-25-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(cellular distribution of polymer particles bearing various densities of carbohyrate ligands)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 21 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:697962 HCAPLUS
DN 121:297962
TI Receptor-mediated regulation of differentiation and proliferation of hepatocytes by a synthetic polymer model of asialoglycoprotein
AU Kobayashi, A.; Goto, M.; Kobayashi, K.; Akaike, T.
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Journal of Biomaterials Science, Polymer Edition (**1994**), 6(4), 325-42
CODEN: JBSEEA; ISSN: 0920-5063
DT Journal
LA English
AB The morphol. and responses of rat hepatocytes to an artificial asialoglycoprotein model polymer: lactose-carrying polystyrene

{poly[N-p-vinylbenzyl-4-O-.beta.-D-galactopyranosyl-D-gluconamide] (PVLA)}, used as a culture substratum, were investigated, focusing esp. on the effect of the surface d. of the PVLA substratum. The surface d. of PVLA coated on polystyrene dishes was detd. by using fluorescein-labeled PVLA as a probe under a fluorescence laser microscope. PVLA mols. were adsorbed patchily on the dish when used at low d. and were uniformly concd. all over the dish at high densities. From the requirement for Ca2+, inhibition by galactosyl-contg. substances, and localization of receptors, it is suggested that the adhesion of hepatocytes to surfaces coated with PVLA at both low and high d. is mediated by galactose-specific interactions between PVLA and asialoglycoprotein receptors. At low PVLA densities (0.07 .mu.g/cm2), the hepatocytes were flat and expressed high levels of thymidine uptake and low levels of bile acid secretion. Contrastingly, at high PVLA densities (1.08 .mu.g/cm2), they were round and expressed a low level of thymidine uptake and a high level of bile acid secretion. The shapes, proliferation, and differentiation of hepatocytes could be regulated by varying the densities of PVLA adsorbed to the polystyrene dishes. Two recognition mechanisms are assumed to operate between PVLA and hepatocytes: (1) adhesion through highly concd. or clustered galactose-specific receptors; (2) factors which alter the responses of shape, proliferation, and differentiation according to the different PVLA coating densities.

IT **96910-25-7**, PVLA
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(receptor-mediated regulation of hepatocyte differentiation and proliferation and adhesion by synthetic asialoglycoprotein model)

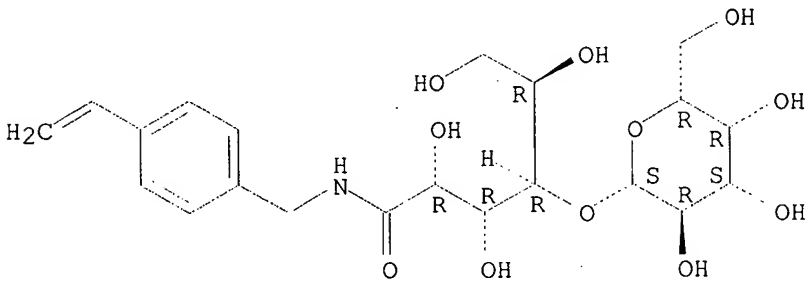
RN 96910-25-7 HCAPLUS

CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 22 OF 43 HCAPLUS COPYRIGHT 2002 ACS

AN 1994:576141 HCAPLUS

DN 121:176141

TI Induction of cytochrome P-450s and expression of liver-specific genes in rat primary hepatocytes cultured on different extracellular matrixs

AU Matsushita, Natsuki; Oda, Hiroaki; Kobayashi, Kazukiyo; Akaike, Toshihiro; Yoshida, Akira

CS Sch. Agric. Sci., Nagoya Univ., Nagoya, 464-401, Japan

SO Bioscience, Biotechnology, and Biochemistry (**1994**), 58(8), 1514-16
CODEN: BBBIEJ; ISSN: 0916-8451

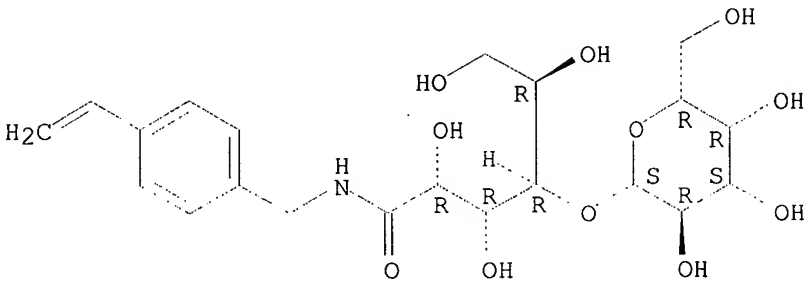
DT Journal

LA English
AB Freshly isolated hepatocytes were cultured on an EHS-gel prepd. from EHS-tumor, poly-N-p-vinylbenzyl-D-lactonamide (PVLA), and type I collagen (TIC). Hepatocytes on EHS-gel showed a spherical shape and much more strongly maintained the inducible expression of cytochrome P 450 genes which were lost on PVLA and TIC. Further, the expression of liver-specific genes were maintained on EHS gel at the highest level, and then higher on PVLA than TIC.
IT **96910-25-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(extracellular matrix induction of cytochrome P-450s and expression of liver-specific genes in hepatocytes primary culture)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

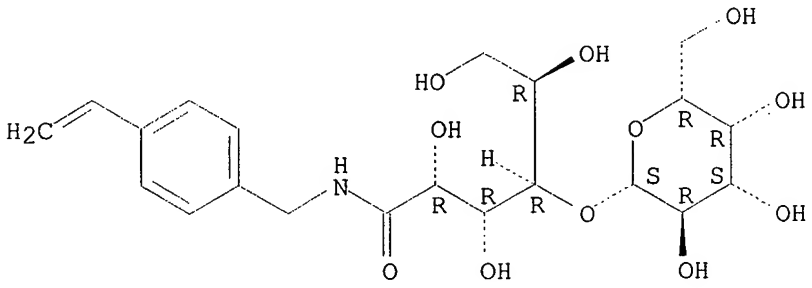
Absolute stereochemistry.



L41 ANSWER 23 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:410094 HCAPLUS
DN 121:10094
TI Synthesis of a new polymer containing uridine and galactose as pendent groups
AU Hatanaka, Kenichi; Takeshige, Hideyuki; Akaike, Toshihiro
CS Dep. Biomol. Eng., Tokyo Inst. Technol., Yokohama, 227, Japan
SO Journal of Carbohydrate Chemistry (**1994**), 13(4), 603-10
CODEN: JCACDM; ISSN: 0732-8303
DT Journal
LA English
AB A new styrene compd. contg. a derivatized uridine unit, i.e., 2',3'-O-isopropylideneuridine 5'-p'-styrenesulfonate (I), was synthesized and polymd. with AIBN as an initiator. Removal of protecting isopropylidene groups from the obtained polymer gave uridine-contg. polystyrene. Uridine-contg. polystyrene was synthesized also by the polymn. of the deprotected monomer (II), which had been prepd. by removal of isopropylidene group from I. Copolymn. of I with a styrene monomer having a galactosyl moiety, i.e., N-p-vinylbenzyl-4-O-(.beta.-D-galactopyranosyl)-D-gluconamidel (III), was carried out in DMSO. However, the deprotection of the obtained copolymer failed, because the lactonamide portion was severed in the process of deisopropylidenation. On the other hand, the copolymn. of II with III in DMF and in water with AIBN as an initiator gave the target copolymer which contained both uridine and galactose residues. Polymers and copolymers were characterized by 1H NMR spectroscopy. 9025-35-8 512-69-6.

IT 96886-53-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and polymn. of)
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



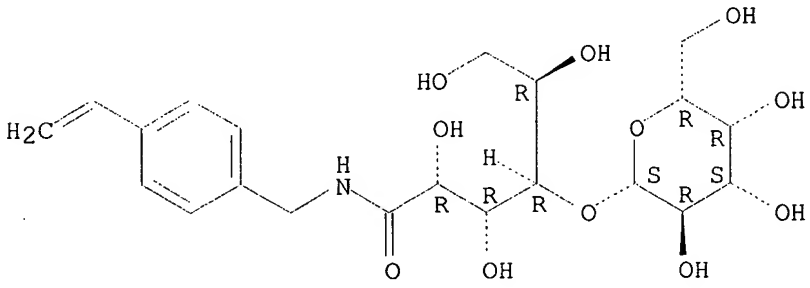
L41 ANSWER 24 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1994:280025 HCAPLUS
DN 120:280025
TI Lactose-carrying polystyrene as a drug carrier: Investigation of body distributions to parenchymal liver cells using 125I-labeled lactose-carrying polystyrene
AU Goto, Mitsuaki; Yura, Hirohumi; Chang, Chia Wun; Kobayashi, Akira; Shinoda, Tatsuki; Maeda, Atsushi; Kojima, Seiki; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Journal of Controlled Release (**1994**), 28(1-3), 223-33
CODEN: JCREEC; ISSN: 0168-3659
DT Journal
LA English
AB Directed toward pharmacol. applications of lactose-carrying polystyrene, [poly(N-p-vinylbenzyl-O-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide) (PVLA)], its body distribution, clearance from blood and specific binding to receptors were investigated using radiolabeled PVLA. 125I-labeled PVLA was prepd. via copolymn. of N-p-vinylbenzyl-O-.beta.-D-galactopyranosyl-(1.fwdarw.4)-D-gluconamide (VLA) with 10 mol% of 4-(2-propenyl)phenyl acetate followed by radiolabelling of the latter component. When 125I-labeled PVLA was injected into rats through their tail veins, the radioactivity was distributed highly to liver, less to thyroid gland, cecum-large intestine, urine, feces and blood, and much less to lung, heart, kidney, spleen, pancreas, small intestine and urinary bladder. Its concn. to liver was visible by whole-body autoradiog. It was clarified that about 97% of PVLA was distributed to parenchymal liver cells and only 3% to nonparenchymal liver cells. The radioactivity in blood was decreased with time according to a biexponential curve. A 2-open compartment model is proposed on the basis of the pharmacokinetic anal. of the eq., which elucidated that PVLA migrated rapidly from blood to parenchymal liver cells. Specific binding between 125I-labeled PVLA and asialoglycoprotein receptors on parenchymal liver cells was demonstrated by its inhibition with asialofetuin. The bond dissocn. const. estd. by Scatchard anal. was Kd = 1.4 .times. 10-9M. The binding was as strong as those of several naturally occurring asialoglycoproteins. These properties of PVLA, as liver-specific targeting materials using galactose ligands as recognition signals to asialoglycoprotein receptors, are discussed with the conformational structures of PVLA which can carry drugs in their hydrophobic regions.

IT **96910-25-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and parenchymal liver distribution of)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

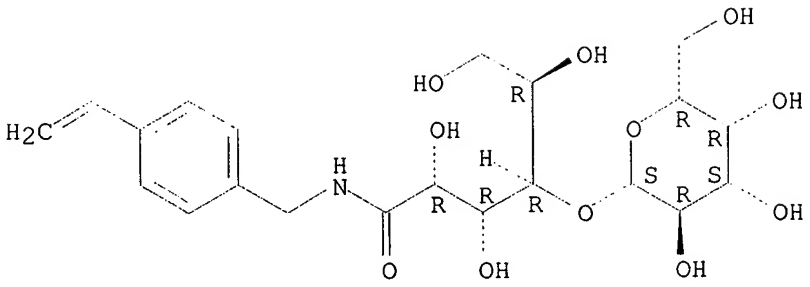


L41 ANSWER 25 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:678672 HCAPLUS
DN 119:278672
TI Design of hepatocyte recognition polymer and its application to the reconstruction of liver tissue for hydrid artificial organ
AU Akaike, T.; Kobayashi, A.; Kobayashi, K.
CS Fac. Biosci. Technol., Tokyo Inst. Technol., Yokohama, 227, Japan
SO New Funct. Mater. (**1993**), Volume B, 303-12. Editor(s): Tsuruta, Teiji. Publisher: Elsevier, Amsterdam, Neth.
CODEN: 59NKAJ
DT Conference
LA English
AB Hepatocytes recognize the structure of oligosaccharides via asialoglycoprotein receptors. Thus, lactose-carrying styrene polymer (PVLA) was prepd. as an asialoglycoprotein model. The regulation of differentiated function and proliferation of hepatocytes cultured on polystyrene dishes can be achieved by varying the amt. of PVLA coated on the dishes. Furthermore, hepatocytes attached on PVLA, formed anchored multilayer aggregates that had stable three-dimensional structure when epidermal growth factor (EGF) and insulin were added to the culture medium. Cells in aggregates expressed a higher level of albumin secretion and lower proliferative ability than those in monolayer cultures on collagen. When hepatocytes were cultured with non-parenchymal liver cells (NPC) on PVLA substratum, the cells formed remarkably the multilayer aggregates even without the addn. of EGF. This culture system using PVLA has potential use for the study of the progress of liver regeneration and the development of hepatic module systems such as a bioreactor and a hybrid artificial liver.
IT **96910-25-7**
RL: PROC (Process)
(hepatocyte recognition of, for hybrid artificial liver)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

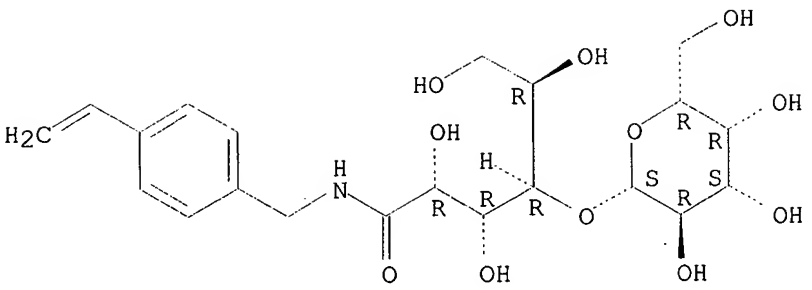


L41 ANSWER 26 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:35374 HCAPLUS
DN 118:35374
TI Tissue reconstruction in primary cultured rat hepatocytes on asialoglycoprotein model polymer
AU Tobe, Seishiro; Takei, Yuka; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Artificial Organs (**1992**), 16(5), 526-32
CODEN: ARORD7; ISSN: 0160-564X
DT Journal
LA English
AB Adult rat hepatocytes attached on an asialoglycoprotein model polymer, poly-N-p-vinylbenzyl-D-lactonamide (PVLA), formed anchored multilayer aggregates that had stable 3-dimensional structure when EGF and insulin were added to the culture medium. The formation of multilayer aggregates depended on the concns. of EGF and insulin added. Furthermore, the formation was synergistically accelerated by the presence of both hormones. Cells in the aggregates expressed a higher level of albumin secretion and lower proliferative ability than those in monolayer cultures on collagen. It seemed likely that the cells in multilayer aggregates experienced stable differentiated states resembling those in vivo through the formation of multilayer aggregates. The culture system described here has potential use for the study of the process of liver regeneration and the development of hepatic module systems such as a bioreactor and a hybrid artificial liver.
IT **96910-25-7**
RL: BIOL (Biological study)
(hepatocytes tissue culture on, as asialoglycoprotein model polymer)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

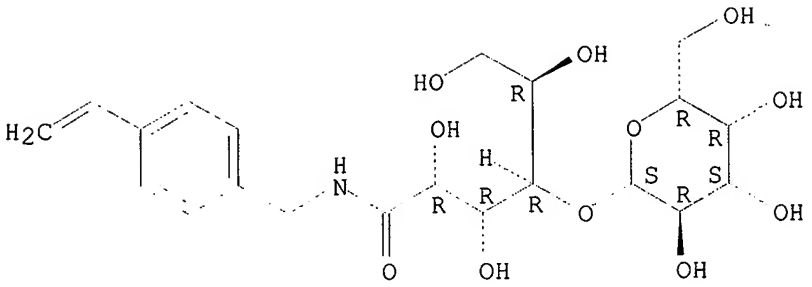


L41 ANSWER 27 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1993:18772 HCAPLUS
DN 118:18772
TI Control of adhesion and detachment of parenchymal liver cells using lactose-carrying polystyrene as a substratum
AU Kobayashi, Akira; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Journal of Biomaterials Science, Polymer Edition (**1992**), 3(6), 499-508
CODEN: JBSEEA; ISSN: 0920-5063
DT Journal
LA English
AB Adhesion of hepatocytes on culture dishes whose surface was coated with a lactose-carrying styrene homopolymer (PVLA) was investigated. Hepatocytes maintained their round shape on PVLA substratum, which is in contrast to the usual spread shape characteristic of those cultured on collagen and fibronectin substrate. Calcium ion was indispensable for hepatocyte adhesion in PVLA substratum, and hence the hepatocytes on PVLA were easily detached when the culture was treated with EDTA. The recovered hepatocytes readheres to PVLA. The adhesion of hepatocytes to PVLA was not inhibited by cytochalasin B but by colchicine. Hepatocytes recognize the galactose moieties on the surface of asialoglycoproteins and removes these proteins from the blood stream by receptor mediated endocytosis. The mechanism of adhesion of hepatocytes on PVLA substratum which contains a high d. of galactose residues was distinct from the attachment on collagen and fibronectin substrata, and showed great similarity to the response and ligand interactions which occurs in the clearance of asialoglycoproteins by hepatocytes.
IT **96910-25-7**
RL: BIOL (Biological study)
(hepatocytes adhesion to and detachment from, control of)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

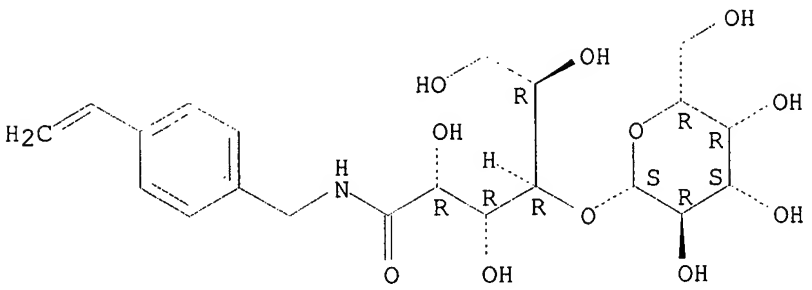


L41 ANSWER 28 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:598338 HCAPLUS
DN 117:198338
TI Development of hepatocyte targetable super molecular structure for drug delivery
AU Goto, Mitsuaki; Kobayashi, Akira; Kobayashi, Kazukiyo; Saito, Kazuhiro; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Drug Delivery System (**1992**), 7(3), 173-9
CODEN: DDSYEI; ISSN: 0913-5006
DT Journal
LA Japanese
AB Lactose carrying polystyrene (PVLA) had been shown to be a good matrix for hepatocyte culture due to specific interaction between the galactose residue and asialoglycoprotein receptors on hepatocyte. In this study, the authors investigated the possible applicability of this specific interaction and the ability of PVLA to form super mol. structures, which could serve as a drug carrier, in targeted delivery of drugs. Spectrophotometric observations indicated that the super mol. structure, resulting from the amphiphilic property of PVLA interacted strongly with ANS (8-anilino-1-naphthalenesulfonic acid), as hydrophilic drug models, and DPH (1,6-diphenyl-1,3,5-hexatriene) or NBD (7-benzyl-4-nitrobenz-2-oxa-1,3-diazole), as hydrophobic drug models, to form inclusion complexes of drugs and PVLA. When hepatocytes were incubated with the PVLA-NBD inclusion complex, high amt. of NBD was transferred into hepatocytes. These results suggest that PVLA could be used as hepatocyte targeting drug carrier.
IT **96910-25-7D**, drug complexes
RL: BIOL (Biological study)
(for hepatocyte drug delivery)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

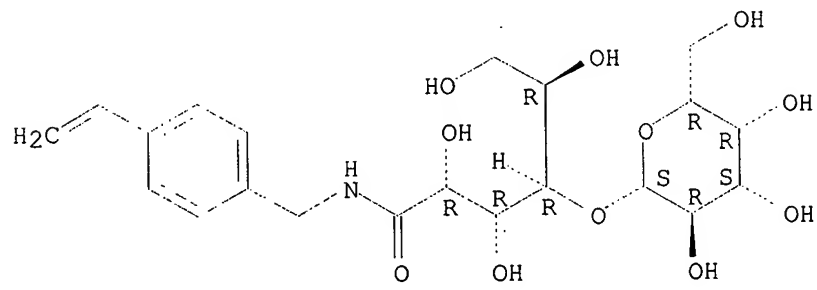


L41 ANSWER 29 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:91301 HCAPLUS
DN 116:91301
TI Model study of hepatocyte targeting polymeric super molecular assembly as drug carrier
AU Goto, Mitsuaki; Kobayashi, Akira; Kobayashi, Kazukiyo; Saito, Kazuhiro; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Chemistry Letters (**1992**), (1), 123-6
CODEN: CMLTAG; ISSN: 0366-7022
DT Journal
LA English
AB The drug-binding properties of lactose-carrying polystyrene (PVLA), which could be endocytosed into hepatocytes due to its interactions with asialoglycoprotein receptors, were examd. by UV and NMR spectroscopies. The results obtained with PVLA complexes with hydrophilic drug model 8-anilinonaphthalene-1-sulfonate and the hydrophobic model 1,6-diphenylhexatriene indicated the PVLA can be used as a hepatocyte-targeting drug carrier.
IT **96910-25-7**
RL: BIOL (Biological study)
(as drug carrier for liver targeted delivery)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



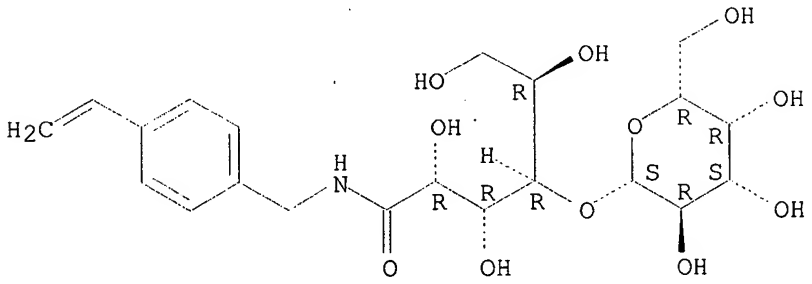
L41 ANSWER 30 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:224696 HCAPLUS
DN 114:224696

TI Hepatocyte adhesion using carbohydrate polymer as substrate material and expression of sugar chain high density effect
AU Kobayashi, K.; Akaike, T.
CS Fac. Agric., Nagoya Univ., Nagoya, Japan
SO Trends in Glycoscience and Glycotechnology (1990), 2(3), 26-32
CODEN: TGGLEE; ISSN: 0915-7352
DT Journal; General Review
LA English/Japanese
AB A review with 8 refs. The authors discussed the features of hepatocyte adhesion onto a lactose-substituted styrene polymer coated dish as compared with the results of hepatocyte adhesion to galactose bonded polyacrylamide, the uptake of hepatocytes by asialoglycoprotein, and the interaction between sugar chain and receptor.
IT **96910-25-7**
RL: ANST (Analytical study)
(hepatocyte adhesion using)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



L41 ANSWER 31 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:202993 HCAPLUS
DN 114:202993
TI Synthesis of asialosaccharide-substituted materials and their application to culturing hepatocytes
AU Kobayashi, Akira; Maeda, Atsushi; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Lab. Kanagawa, Acad. Sci. Technol., Kawasaki, 213, Japan
SO Seitai Zairyo (1990), 8(5), 244-50
CODEN: SEZAEH; ISSN: 0910-304X
DT Journal
LA Japanese
AB The existence of asialoglycoprotein receptors on cellular membrane of hepatocyte is well known. Oligosaccharide-carrying styrene homopolymers were synthesized in which each vinylbenzyl of the main chain is bound to an oligosaccharide [lactose (PVLA), melibiose (PVMeA), cellobiose (PVCA), or maltose (PVMA)] through an amide linkage. Hepatocytes were cultured in Petridishes whose surfaces are coated with PVLA, PVMeA, PVCA and PVMA. Hepatocytes attachment to PVLA, PVMeA, PVCA and PVMA depend on Ca ion concn. and temp. The effect of Ca ion on cell attachment to each substratum was quite specific. The least amt. of Ca ion was necessary to maintain the cell attachment to PVLA-coated dish needed the most amt. of Ca ion. On the other hand, detachment of hepatocytes from various polymer was possible by decreasing Ca ion concn. Expts. on adhesion inhibition

and temp. effect suggested that the interactions between polymers and hepatocytes decreased in the order of PVLA > PVMeA > PVCA > PVMA. This specific behavior could be explained on the basis of activation, recycling and the no. of asialoglycoprotein receptors which can be mediated by Ca ions.

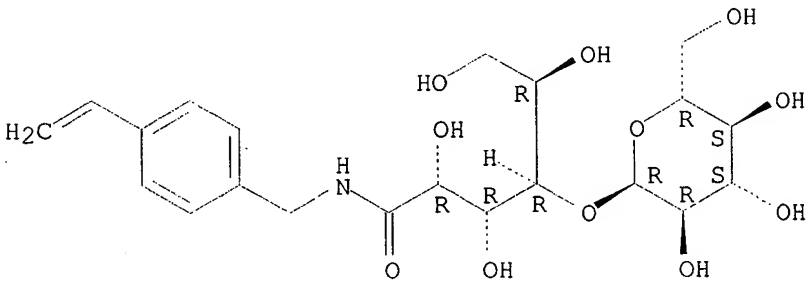
IT **96910-24-6P 96910-25-7P 118085-68-0P**
RL: PREP (Preparation)
(prepn. and Petri dishes coated with, for hepatocyte culturing)

RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

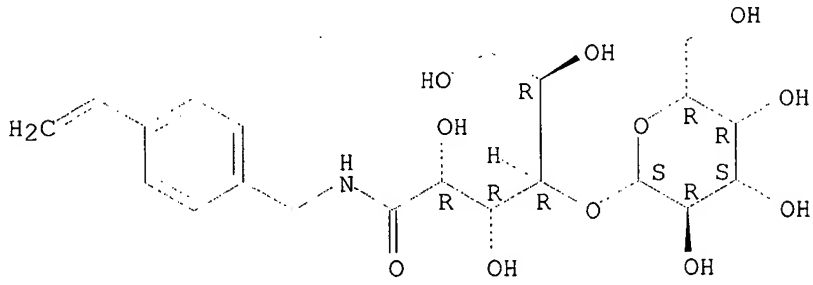


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

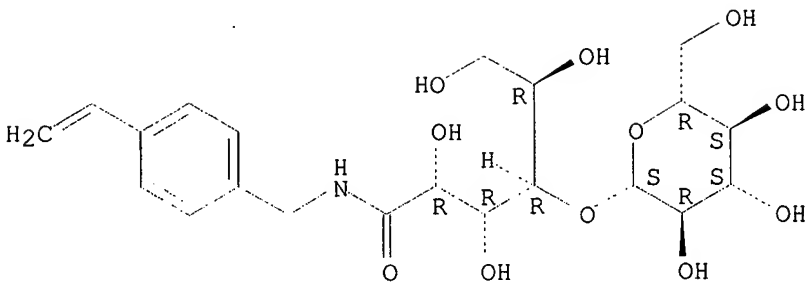


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.

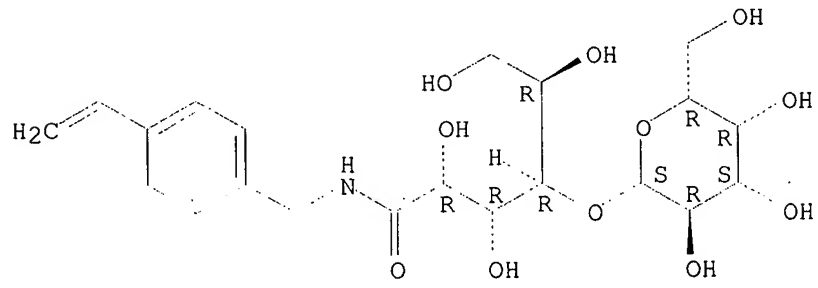


L41 ANSWER 32 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:171085 HCAPLUS
DN 114:171085
TI Approach to hybrid artificial liver
AU Tobe, Seishiro; Akaike, Toshihiro
CS Kanagawa Acad. Sci. and Technol., Kawasaki, 213, Japan
SO Kagaku (Kyoto, Japan) (**1991**), 46(2), 136-7
CODEN: KAKYAU; ISSN: 0451-1964
DT Journal; General Review
LA Japanese
AB A review with 11 refs. on adhesion of hepatocytes to polystyrene deriv. substrates via asialoglycoprotein receptors and formation of multilayer hepatocyte aggregates using hepatotropin.
IT **96910-25-7**
RL: BIOL (Biological study)
(hepatocyte adhesion to, artificial liver in relation to)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



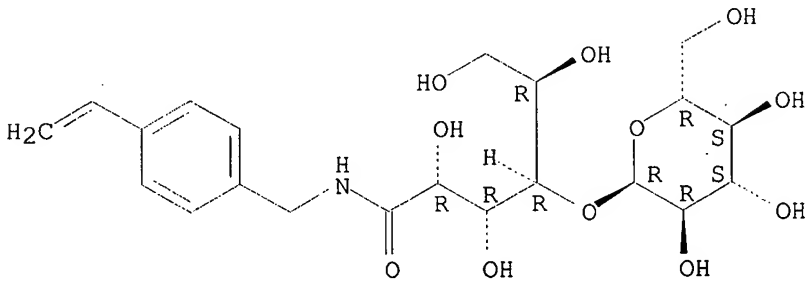
L41 ANSWER 33 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:618182 HCAPLUS
DN 113:218182
TI Effect of polystyrene derivatives having sugar moiety on platelet adhesion and activation
AU Takayama, Takashi; Kobayashi, Kazukiyo; Sumitomo, Hiroshi; Matuda, Takehisa; Akaike, Toshihiro
CS Fac. Technol., Tokyo Univ. Agric. Technol., Koganei, 184, Japan

SO Seitai Zairyo (1990), 8(3), 122-8
CODEN: SEZAEH; ISSN: 0910-304X
DT Journal
LA Japanese
AB Polystyrene derivs. with various saccharide groups as pendant were synthesized. These polymers showed antithrombogenic properties. The abilities to suppress platelet adhesion and activation were evaluated by percentage of platelet adhesion by column method, intracellular Ca2+ mobilization in contact with polymer-coated surfaces and shape change of adhered platelet. The investigation of the behavior of polymer adsorption by ESCA showed that platelet suppressing activity was revealed only when the coated polymer formed micelle-like conformation. These polymers can be adsorbed by easy treatment for their water soly. and soapiness. Thus, the polymers with saccharide groups can be applied for artificial organs, blood bags, etc.
IT **96910-24-6 96910-25-7**
RL: BIOL (Biological study)
(blood platelet activation and adhesion response to, antithrombogenic biomaterials in relation to)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

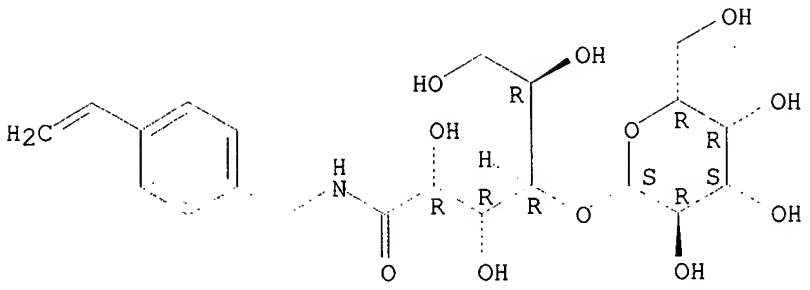


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

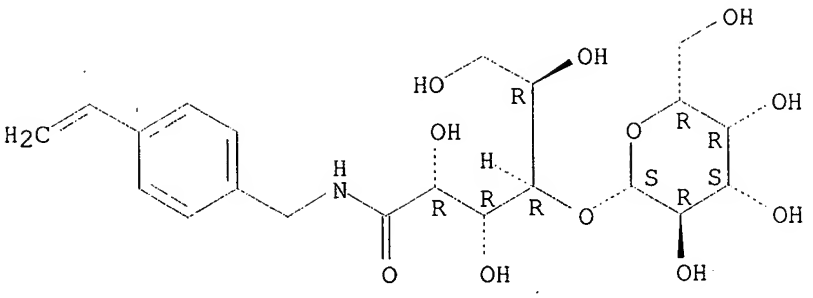


L41 ANSWER 34 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:605387 HCAPLUS
DN 113:205387
TI Effect of supplemented EGF on multilayer aggregation in rat hepatocyte primary culture
AU Tobe, Seishiro; Takei, Yuka; Kobayashi, Kazukiyo; Akaike, Toshihiro
CS Kanagawa Acad. Sci. Technol., Kawasaki, 213, Japan
SO Communications in Applied Cell Biology (1990), 8(1), 16-22
CODEN: CCBIE3; ISSN: 0913-8188
DT Journal
LA Japanese
AB Previously it was found that the hepatocyte recognizes the structure of oligosaccharides via asialoglycoprotein receptors, and a lactose-carrying styrene polymer (PVLA) was synthesized as an asialoglycoprotein model. In this study, it was found that attached hepatocytes on PVLA initially exhibited chemotactic activity, and then remarkably formed multilayer aggregates which survived for long periods by the stimulation of supplemental growth factors such as EGF. The formation of multilayer aggregates clearly depended on the concn. of supplemented EGF. Ca2+ was 1 of the essential ions in forming the aggregates. The cells in the multilayer aggregates are formed on PVLA exhibited good maintenance of specific hepatocyte functions, including a higher capability for higher albumin prodn. than those in the monolayer culture on PVLA. Apparently, the cell culture system described here may be useful for the development of a hybrid artificial liver.
IT **96910-25-7**
RL: BIOL (Biological study)
(EGF-stimulated hepatocyte multilayer aggregation in cells grown on substratum of, in primary culture)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

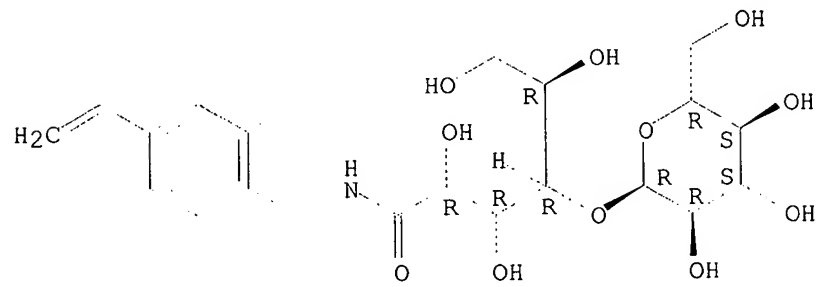


L41 ANSWER 35 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:215163 HCAPLUS
DN 112:215163
TI Adhesion of liver cells to oligosaccharide-substituted polystyrenes
AU Akaike, Toshihiro; Maeda, Atsushi; Tobe, Seishiro; Nomoto, Hirokazu; Kobayashi, Kazukiyo; Sumitomo, Hiroshi
CS Fac. Technol., Tokyo Univ. Agric. Technol., Koganei, 184, Japan
SO Nippon Nogei Kagaku Kaishi (**1990**), 64(2), 145-50
CODEN: NNKKAA; ISSN: 0002-1407
DT Journal
LA Japanese
AB Isolated hepatocytes from rat liver were cultured on a surface of 4 different kinds of polystyrene derivs. including a lactose, melibiose, cellobiose, or maltose residue in each repeating unit (polymers I, II, III and IV, resp.) in Petri dishes. They adhered effectively to polymers I and II, moderately to III, and only weakly to IV. The results of adhesion inhibition expt. and temp. effect on such adhesion suggest that the interaction between the polymers and the cells decreased in the order I .gtoreq. II .gtoreq. III .gtoreq. IV. Adhesion behavior was discussed on the basis of the recognition of the oligosaccharide residues by the hepatocytes.
IT **96910-24-6 96910-25-7 118085-68-0**
RL: BIOL (Biological study)
(hepatocytes adhesion to)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.



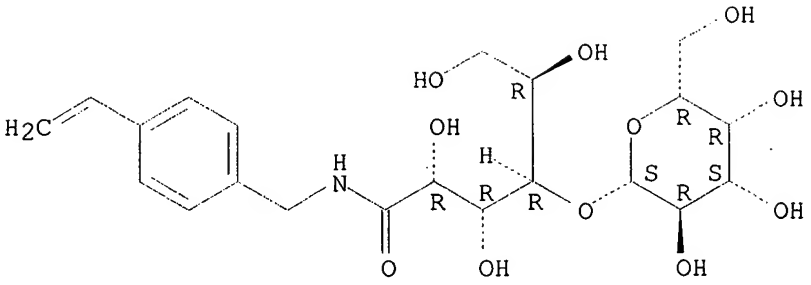
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-,

homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

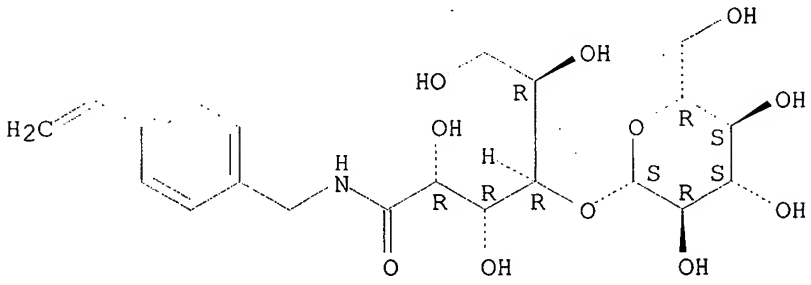


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



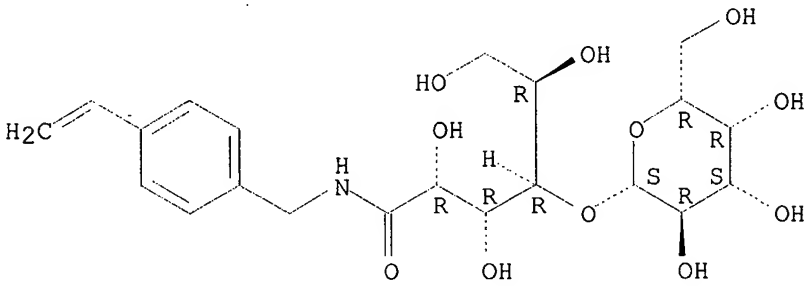
L41 ANSWER 36 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:474243 HCAPLUS
DN 111:74243
TI Separation of parenchymal liver cells using a lactose-substituted styrene polymer substratum
AU Akaike, Toshihiro; Kobayashi, Akira; Kobayashi, Kazukiyo; Sumitomo, Hiroshi
CS Fac. Technol., Tokyo Univ. Agric. Technol., Tokyo, 184, Japan
SO Journal of Bioactive and Compatible Polymers (**1989**), 4(1), 51-6
CODEN: JBCPEV; ISSN: 0883-9115
DT Journal
LA English
AB Parenchymal liver cells were sepd. from nonparenchymal cells using lactose-carrying polystrene (PVLA) substratum. The liver cell suspension was incubated on the PVLA-coated Petri dish for 2 h. The nonparenchymal cells and nonviable parenchymal cells were then decanted off the dish. More than 95% of the recovered parenchymal cells were viable.
IT **96910-25-7**

RL: ANST (Analytical study)
(for sepn. of parenchymal cells from nonparenchymal cells of liver)
RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

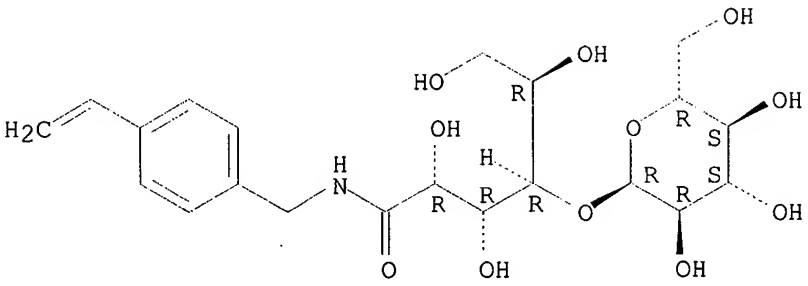


L41 ANSWER 37 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:131516 HCAPLUS
DN 110:131516
TI Synthesis of polystyrenes having an oligosaccharide derivative in each repeating unit, and their interactions with lectin and red blood cells
AU Kobayashi, Kazukiyo; Sumitomo, Hiroshi; Hirate, Yoshinori; Akaike, Toshihiro
CS Fac. Agric., Nagoya Univ., Nagoya, 464, Japan
SO Kobunshi Ronbunshu (**1988**), 45(12), 919-24
CODEN: KBRBA3; ISSN: 0386-2186
DT Journal
LA Japanese
AB Styrene derivs., N-p-vinylbenzyl-O-.beta.-D-glucopyranosyl-(1.fwdarw.4)-D-gluconamide and N-p-vinylbenzyl-O-.alpha.-D-galactopyranosyl-(1.fwdarw.6)-D-gluconamide, were prepd. from cellobiose and melibiose as the resp. starting oligosaccharides, and the corresponding homopolymers (represented as PVCA and PVMeA) were obtained by radical polymn. in water at 60.degree.. The recognition functions of these polymers, together with those of previously reported oligosaccharide-carrying polymers, were investigated by their interaction with lectins and red blood cells. Agglutination of red blood cells by Con A was inhibited in the presence of the analogous polymers prepd. from maltose, maltotriose, maltopentaose, and maltoheptaose, the non-reducing terminal of which was .alpha.-D-glucopyranose. Inhibition activities of these polymers were about 103 times as high as those of the corresponding starting oligosaccharides. A remarkable polymer effect was manifested by the polymers which carry an oligosaccharide moiety in each repeating unit. All these polymers except PVCA caused agglutination of human red blood cells; the agglutination activity of PVMeA was remarkably high.
IT **96910-24-6P 96910-25-7P 118085-68-0P**
RL: PREP (Preparation)
(prepn. and cell recognition functions of, hemagglutination inhibition and lectin interaction in study of)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

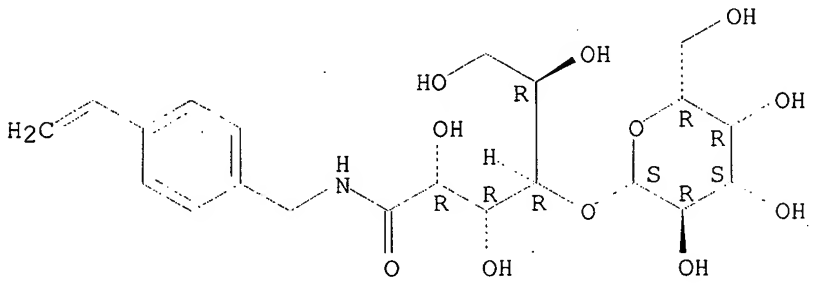


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

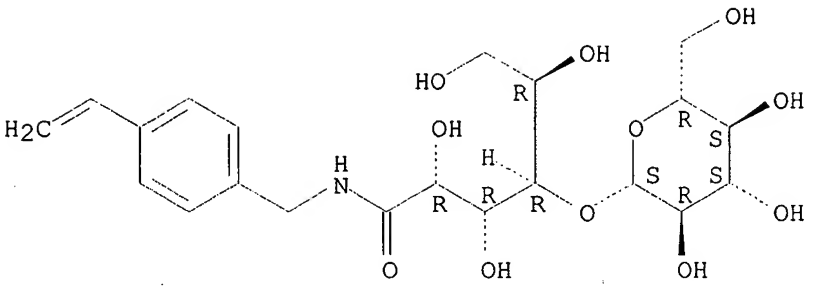


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

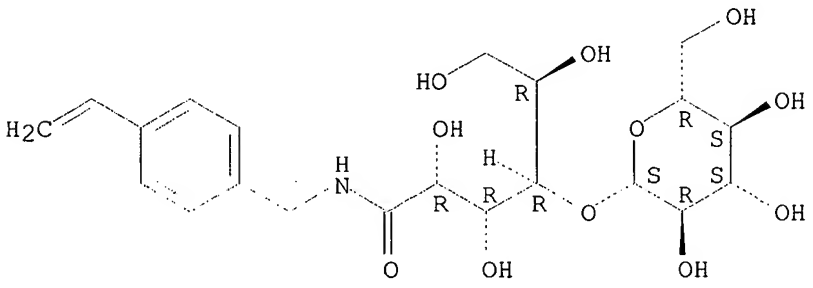
CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



IT **118085-67-9P**
RL: PREP (Preparation)
(prepn. of)
RN 118085-67-9 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



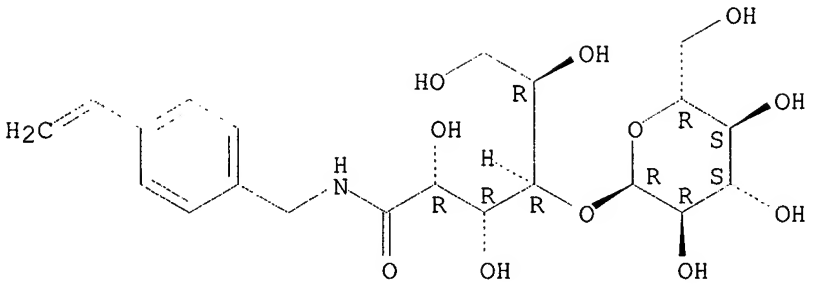
L41 ANSWER 38 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1989:29037 HCAPLUS
DN 110:29037
TI Synthetic substrata design for hybrid artificial liver spreading-suppressive substrata for liver parenchymal cell
AU Akaike, T.; Kobayashi, A.; Tobe, S.; Maeda, A.
CS Tokyo Univ. Agric. Technol., Tokyo, Japan
SO Jinko Zoki (**1988**), 17(1), 227-30
CODEN: JNZKA7; ISSN: 0300-0818
DT Journal
LA Japanese
AB A synthetic substrata on which liver parenchymal cells can selectively attach and maintain longer survival was designed. Lactose-carrying polystyrene (PVLA) was the preferential candidate substratum which can esp. perform its function in serum- or albumin-contg. medium. The temp. dependency on cell attachment and the regulation of cell spreading on PVLA were also examd. and compared with collagen substratum.
IT **96910-24-6 96910-25-7 118085-68-0**
RL: BIOL (Biological study)
(spreading-suppressive substratum for liver parenchymal cells contg., artificial liver in relation to)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1

CMF C21 H31 N O11

Absolute stereochemistry.

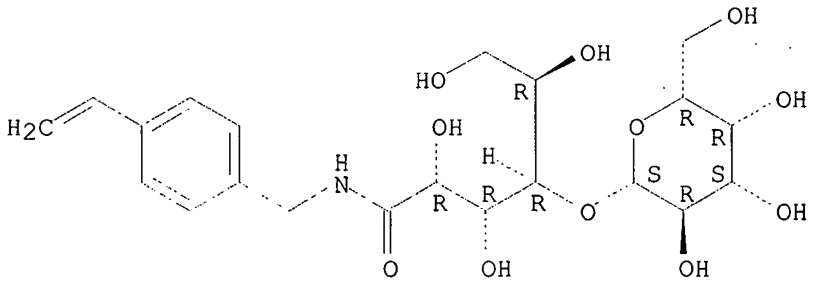


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.

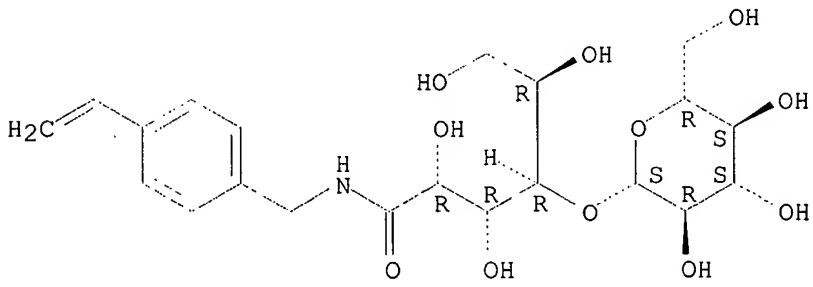


RN 118085-68-0 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

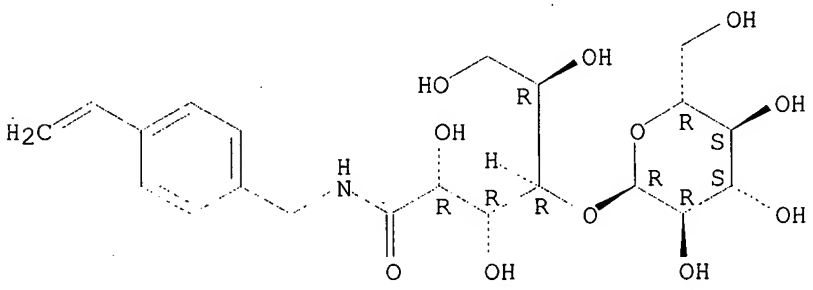
CRN 118085-67-9
CMF C21 H31 N O11

Absolute stereochemistry.



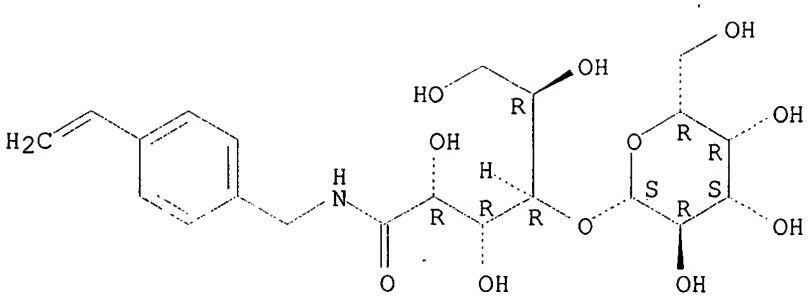
L41 ANSWER 39 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:593184 HCAPLUS
DN 107:193184
TI Functional capsule membranes. Part 30. Concanavalin A-induced permeability control of capsule membranes corked with synthetic glycolipid bilayers or grafted with synthetic glycopolymers
AU Okahata, Yoshio; Nakamura, Genichi; Noguchi, Hiroshi
CS Dep. Polym. Chem., Tokyo Inst. Technol., Tokyo, 152, Japan
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (**1987**), (9), 1317-22
CODEN: JCPKBH; ISSN: 0300-9580
DT Journal
LA English
AB Large, ultrathin nylon capsule membranes were corked with synthetic glycolipid (2C14-glu and 2C14-gal) or grafted with synthetic polymers having pendant saccharides (Poly-glu and Poly-gal). The permeability of NaCl from the capsule corked with glycolipid bilayers having the .alpha.-D-glucopyranosyl head group (I), but not the .beta.-D-galactopyranosyl head group (II), was increased by interaction with concanavalin A (Con A) because of the distortion of corking bilayers induced by the specific binding of Con A to I on the capsule surface. When the capsule grafted with polymers having pendant units, but not II units, was employed, the permeability of water-sol. dyes was reversibly reduced and increased by the alternative addn. of Con A and an excess of monosaccharides from outside, resp. Thus, Con A specifically formed the crosslinked complex with I of graft-polymers on the capsule surface and reduced the permeability. Upon addn. of an excess of monosaccharides, Con A was removed from the capsule surface and the permeability reverted to the original fast rate. These permeability changes with Con A largely depended on the mol. size of the permeants. Thus, the lipid bilayers or graft-polymers on the capsule membrane acted as a permeation valve responding to specific mol. recognition between lectins and carbohydrates on the membrane surface.
IT **96886-52-1DP**, polymers with ethylene glycol dimethacrylate-grafted nylon **96886-53-2DP**, polymers with ethylene glycol dimethacrylate-grafted nylon
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and concanavalin A-induced permeability control of)
RN 96886-52-1 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



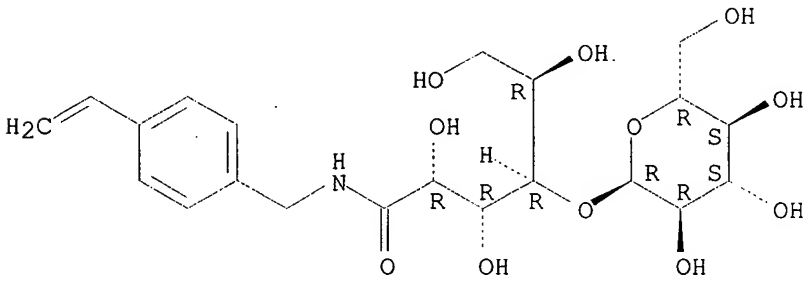
RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



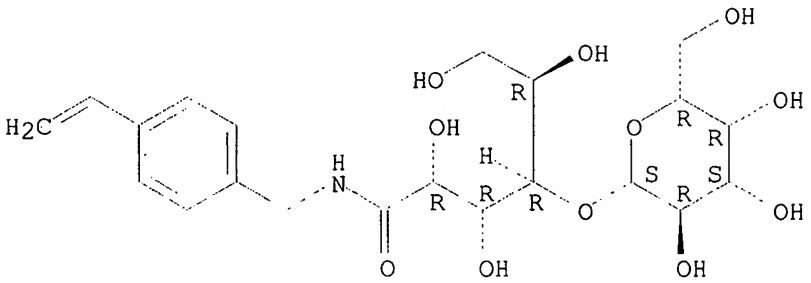
IT **96886-52-1P 96886-53-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 96886-52-1 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



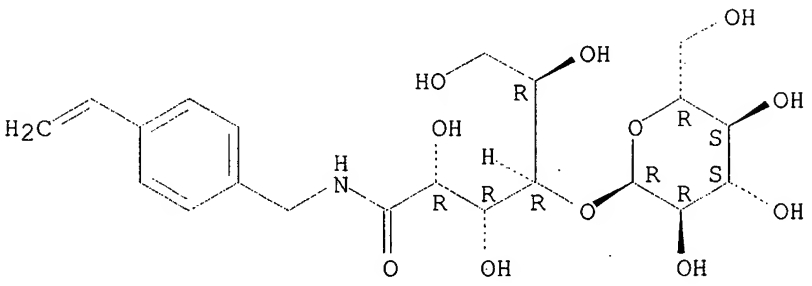
L41 ANSWER 40 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:3373 HCAPLUS
DN 106:3373
TI Enhanced adhesion and survival efficiency of liver cells in culture dishes coated with a lactose-carrying styrene homopolymer
AU Kobayashi, Akira; Akaike, Toshihiro; Kobayashi, Kazukiyo; Sumitomo, Hiroshi
CS Fac. Technol., Tokyo Univ. Agric. Technol., Koganei, 184, Japan
SO Makromolekulare Chemie, Rapid Communications (**1986**), 7(10), 645-50

CODEN: MCRCD4; ISSN: 0173-2803
DT Journal
LA English
AB Oligosaccharide-carrying homopolystyrenes, prepd. from coupling lactones of oxidized glucose, maltose, lactose on maltotriose to p-vinylbenzylamine to form an amide and polymn. to give polymers PVGA, PVMA, PVLA, and PVMTA, resp., were used to study hepatocyte culture under controlled conditions. The system could also serve as an artificial organ to make up for liver fundus and as a bioreactor. The highest adhesion of hepatocytes was attained with culture dishes coated with PVLA. Among 4 media, serum-free and serum supplemented Williams E and Eagle MEM, the serum-supplemented Williams E was the most effective for adhesion of hepatocytes to PVLA coated dishes. The adhesion efficiency at the early stage under serum free conditions was in the order: PVLA > PVMA .gtoreq. PVMIA > PVGA in Eagle MEM; and PVL > PVGA .gtoreq. PVMA > PVMTA in Williams E.
IT **96910-24-6P 96910-25-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and culture dishes coated with, hepatocyte adhesion and survival in)
RN 96910-24-6 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 96886-52-1
CMF C21 H31 N O11

Absolute stereochemistry.

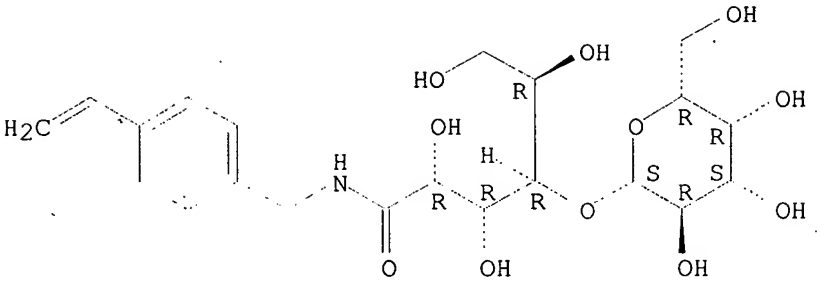


RN 96910-25-7 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

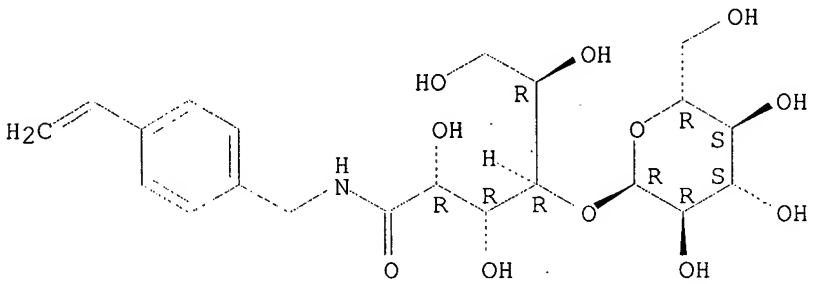
CRN 96886-53-2
CMF C21 H31 N O11

Absolute stereochemistry.



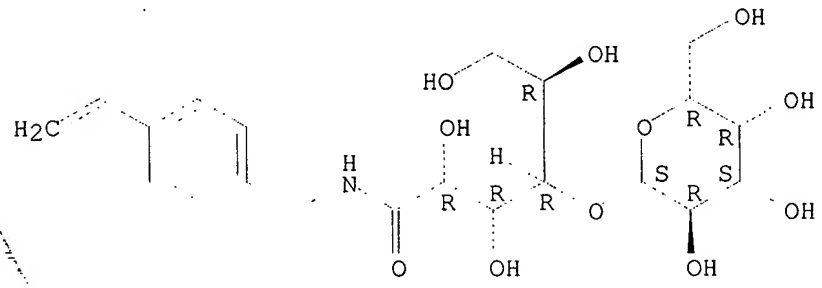
IT **96886-52-1P 96886-53-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 96886-52-1 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

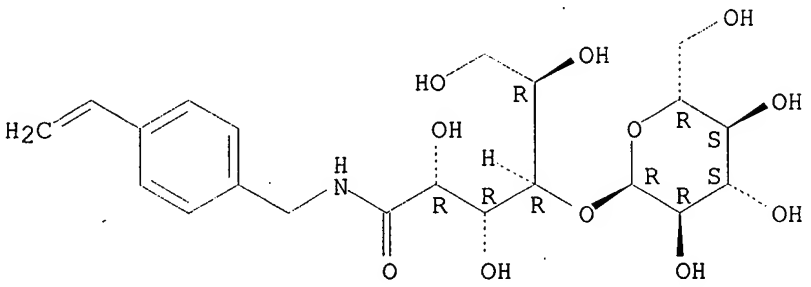
Absolute stereochemistry.



ANSWER 41 OF 43 HCAPLUS COPYRIGHT 2002 ACS
1985:406784 HCAPLUS
103:6784
ynthesis and functions of polystyrene derivatives having pendant
igosaccharides
ayashi, Kazukiyo; Sumitomo, Hiroshi; Ina, Yoshimitsu
Agric., Nagoya Univ., Nagoya, 464, Japan
ier Journal (Tokyo, Japan) (**1985**), 17(4), 567-75
POLJB8; ISSN: 0032-3896

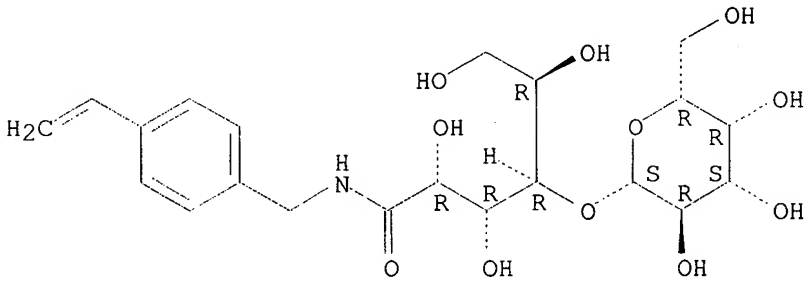
(prepn. and polymn. of)
RN 96886-52-1 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.alpha.-D-glucopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 96886-53-2 HCAPLUS
CN D-Gluconamide, N-[(4-ethenylphenyl)methyl]-4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



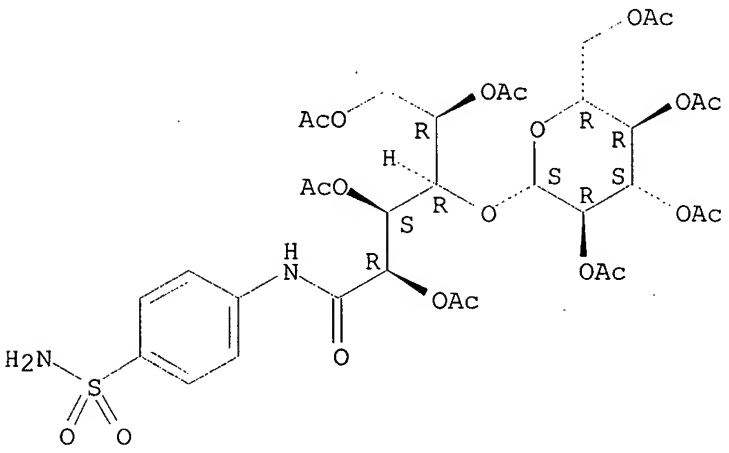
L41 ANSWER 42 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1964:3522 HCAPLUS
DN 60:3522
OREF 60:643h,644g-h,645a-e
TI Preparations and reactions of D-glucaric acid derivatives
AU Bognar, Rezso; Farkas, Istvan; Szabo, Ilona F.; Szabo, Gizella D.
CS Kossuth Lajos Univ., Debrecen, Hung.
SO Magy. Kem. Folyoirat (**1963**), 69(10), 450-3
DT Journal
LA Unavailable
AB Heating a mixt. of 2.7 g. penta-O-acetyl-D-galactonic acid and 2.7 ml. Cl2CHOMe (I) at 70.degree. for 1 hr., evapg. to dryness, and treating the residue with Et2O gave 92% penta-O-acetyl-D-galactonyl chloride (II), m. 79-80,.degree. [.alpha.]20D 3.4.degree. (c 2.93, CHCl3). A soln. of 7 g. octa-O-acetylcellobionamide in 35 ml. AcOH was treated with N2O3 at 0.degree. until the soln. turned to a const. green. After 4.5 hrs. at room temp., it was added to 70 g. NaHCO3 in 180 ml. H2O, adjusted with 1:1 HCl to pH 3, and extd. with CHCl3 to yield 67% octa-O-acetylcellobionic acid (III), m. 138.degree. (CHCl3-ligroine), [.alpha.]D 8.9.degree. (c 1.76, CHCl3). A mixt. of 1 g. III and 1.5 ml. I was heated at 70.degree. for 1 hr. to give 92.7% octa-O-acetylcellobionyl chloride (IV), m. 115.degree., [.alpha.]D 2.1.degree. (c 2, CHCl3). A mixt. of 1 g. tetra-O-acetylgalactaric acid, 2 ml. I, and a catalytic amt. of anhyd. ZnCl2 refluxed 1 hr., evapd. to dryness at 50.degree. in vacuo, and the residue crystd. from C6H6 gave 75% tetra-O-acetylgalactaryl dichloride

(V), m. 178-9.degree.. A mixt. of 1 g. penta-O-acetyl-D-gluconyl chloride (VI), 10 ml. Me2CO, and 0.31 g. NaN8 in 2 ml. H2O (prepd. at 0.degree.), after cooling 20.degree. min., was dild. with H2O to turbidity to yield 72.7% penta-O-acetyl-D-gluconylazide (VII), m. 89.degree. (Me2CO), [.alpha.]D 17.degree. (c 1.71, Me2CO). II (1 g.) in 10 ml. Me2CO treated with 0.4 g. NaN3 in 2 ml. H2O at 0.degree. gave 87% penta-O-acetyl-D-galactonylazide, m. 104-5.degree., [.alpha.]D 2.6.degree. (c 2, Me2CO). IV (0.92 g.) in 10 ml. Me2CO treated with 0.4 g. NaN3 in 2 ml. H2O at 0.degree. gave 63.7% octa-O-acetylcellobionylazide, m. 112.degree., [.alpha.]D 12.9.degree. (c 1.32, CHCl3). Penta-O-acetyl-D-gluconanilide (VIII) was prepd. (a) in 75.7% yield by adding 1 ml. PhNH2 to 1 g. VI in 4 ml. CHCl3 and after standing 1 hr. evapg. to dryness in vacuo, adding EtOH twice to the residue and evapg. again, and treating the residue with 1% HCl, m. 156.degree. (50% EtOH), [.alpha.]D 38.6.degree. (c 1.5, CHCl3), or (b) in 69% yield by adding 0.3 ml. PhNH2 to 0.3 g. VII in 3 ml. EtOAc at 0.degree., after standing 3 hrs. evapg. to dryness and working up as above, [.alpha.]D 41.6.degree. (c 1, CHCl3). VIII (1 g.) in 4 ml. hot abs. MeOH was treated with 0.3 ml. N NaOMe soln. to yield 73% D-gluconanilide, m. 171.degree., [.alpha.]D 51.3.degree. (c 1.13, H2O). VI (1 g.) in 3 ml. Me2CO was added to 0.81 g. p-H2NC6H4SO2NH2 (IX) in 6 ml. Me2CO; after standing 30 min. the mixt. was filtered and evapd., to yield 69.6% N4-(penta-O-acetyl-D-gluconyl)sulfanilamide (X), m. 149.degree. (EtOH-H2O), [.alpha.]D 21.5.degree. (c 1.48, Me2CO). X (0.52 g.) in 2 ml. hot abs. MeOH was treated with 0.3 ml. N NaOMe soln., to yield 90.5% (crude) N4-(D-gluconyl)sulfanilamide, m. 198.degree. (H2O), [.alpha.]D 46.8.degree. (c 1, H2O). Penta-O-acetyl-D-galactonanilide, m. 172-3.degree., [.alpha.]D 66.degree. (c 1.45, CHCl3), was prepd. similarly from II in 79.3%, and from the azide in 73% yield. Sapon. gave 64% D-galactonanilide, m. 209.degree., [.alpha.]D 58.degree. (c 0.4, H2O). II (1.61 g.) in 7 ml. Me2CO was added to 1.31 g. IX in 14 ml. Me2CO and the mixt. worked up to yield 87.6% N4-(penta-O-acetyl-D-galactonyl)sulfanilamide, m. 196-7.degree., [.alpha.]D 32.8.degree. (c 1.34, Me2CO). Sapon. gave 75.2% N4-D-galactonylsulfanilamide, m. 221.degree., [.alpha.]D 52.8.degree. (c 1.44, 0.1N NaOH). Octa-O-acetylcellobionanilide was prepd. from III via the acid chloride in CHCl3 in 83.9%, m. 154.degree., [.alpha.]D 43.7.degree. (c 0.8, CHCl3). N4-(Octa-O-acetylcellobionyl)sulfanilamide was prepd. also from the acid chloride in 84.5% yield, m. 126-8.degree., [.alpha.]D 17.4 (c 1, Me2CO). V (0.2 g.) in 15 ml. MeOH was refluxed with 0.5 ml. abs. C5H5N for 3 hrs. and evapd. to 5 ml. to yield 61% dimethyl tetra-O-acetylgalactarate, m. 197.degree.. V (2 g.) in 20 ml. CHCl3 was refluxed with 1.8 ml. PhNH2 for 1 hr. to yield 67.5% tetra-O-acetylgalactaric acid dianilide, m. decomp. about 300.degree.. Sapon. gave 81.9% galactaric acid dianilide, m. 248-9.degree.. V (1.58 g.) in 40 ml. Me2CO was added to 1.28 g. IX in 24 ml. Me2CO, also contg. 1.02 g. C5H5N, to give 69.5% cryst. tetra-O-acetylgalactaric acid di-p-sulfamoylanilide, m. 300-2.degree.. Sapon. gave 82% galactaric acid di-p-sulfamoylanilide, m. 259.degree.. VII (0.72 g.) was refluxed in 20 ml. EtOH for 3 hrs., evapd. to 4 ml. in vacuo, and treated with H2O to yield 53.4% Et N-(D-gluco-pentaacetoxyamyl)urethan, m. 117-18.degree., [.alpha.]D 27.2.degree. (c 1.06, CHCl3), m. 119.5.degree. (EtOH-H2O). VII (3 g.) in 18 ml. abs. C6H6 was refluxed with 1.5 ml. PhCH2OH for 3 hrs., evapd. to dryness in vacuo, abs. EtOH was added twice and evapd. again, the residue in 25 ml. EtOH was hydrogenated in the presence of 0.4 g. 10% Pd-C, and evapd. to dryness in vacuo. The residue was heated in 20 ml. 10% NaOH at 40.degree. 2 hrs., EtOH and AcOH were added, the EtOH was removed in vacuo, and the residue refluxed 1 hr. with 2 ml. PhNHNH2, 2 ml. AcOH, and 10 ml. H2O to yield 14.6% D-erythro-pentose phenylosazone, m. 154-6.degree. (decompn.) (40% EtOH).

IT **97573-30-3**, Gluconanilide, 4-O-.beta.-D-glucopyranosyl-4'-sulfamoyl-, octaacetate **107801-56-9**, Cellobionanilide, octaacetate
(prepn. of)

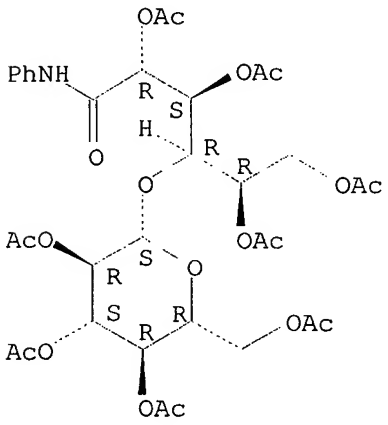
RN 97573-30-3 HCAPLUS
CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 107801-56-9 HCAPLUS
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 43 OF 43 HCAPLUS COPYRIGHT 2002 ACS
AN 1963:428779 HCAPLUS
DN 59:28779
OREF 59:5248f-h,5249a-c
TI Derivatives of aldonic and aldaric acids
AU Bognar, Reyso; Farkas, Istvan; Szabo, Ilona F.; Szabo, Giyella D.
CS Univ. Debrecen, Hung.
SO Ber. (**1963**), 96, 689-93
DT Journal
LA Unavailable
AB Heating 1 g. penta-O-acetylD-galactonic acid (I) and 1 ml. MeOCHCl2 (II) 1 hr. on a water bath, concg. at 50.degree., and recrystg. from Et2O-ligroine gave 92% I chloride, m. 80.degree., [.alpha.]D, 3.4.degree. (c 3, CHCl3). Octa-O-acetylcellobionyl chloride (III), 92.7% yield, m. 115.degree., [.alpha.]D, 2.1.degree. (c 2.4, CHCl3). Heating 1 g. tetra-O-acetylgalactaric acid (IV), 2 g. II, and a trace ZnCl2 1 hr. and recrystg. front C6H6 gave 75% IV diacid chloride, m. 178-9.degree..

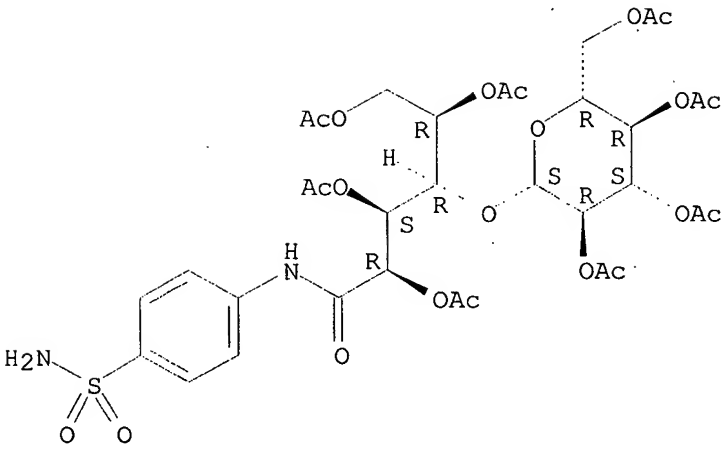
Reaction of 1 g. chloride in 10 ml. Me2CO and 0.3-0.4 g. NaN in 2 ml. H2O 30 min. at 0.degree. and crystn. of the ppt. from Me2CO-H2O gave the azide, stable when stored over KOH; the following were prepd. (yield, m.p., and [.alpha.]D given): I azide, 87%, 104-5.degree., 2.6.degree. (c 1.95, Me2CO); III azide analog, 63.7%, 112.degree., 12.9.degree. (c 1.32, CHCl3): penta-Oacetyl-D-gluconyl azide (V), 72.7%, 89.degree., 17.degree. (c 1.71, CHCl3). Heating 0.72 g. V with 20 ml. EtOH 3 hrs., concn. to 4 ml., addn. of H2O, and crystn. of the ppt. from aq. EtOH gave 0.4 g. 2,3,4, 5,6-pent a- O- acetyl - N- ethoxycarbonyl -D- gluconamide, m. 11718.degree., [.alpha.]D 27.2.degree. (c 1, CHCl3) the other azides gave sirupy products. Reaction of 1 g. chloride in 4 ml. CHCl3 with 1 ml. PhNH2 1 hr., concn., rubbing the residue with 1% HCl, and crystn. from dil. EtOH gave the anilide [acetylated anilide, % yield, m.p., [.alpha.] D, yield deacetylated anilide (from NaOMe 16 hrs. at 0.degree./, m .p. and [.alpha.] D given]: I anilide, 79.3%, 172-3.degree., 65.2.degree. (c 0.9, CHCl3), 81.4%, 209.degree., 58.degree. (c 0.4, H2O); III anilide analog, 83.9%, 154.degree., 43.7.degree. (c 0.8, CHCl3) sirup, -, -; IV dianilide, 67.5%, decompd. .apprx.300.degree., -, 81.9)%, 248-9% -; V anilide analog, 75.7%, 156.degree., 38.6.degree. (c 1.5, CHCl3), 73%, 171.degree., 51.3.degree. (c 1.13, H2O). Reaction of the chloride in Me,CO with 2 equivs. sulfanilamide (VI) 1 hr., filtration from VI.HCl, concn., and crystn. from dil. EtOH gave the 4-aminosulfonylanilide (Z deriv.). Products (same data given): I Z deriv., 87.6%, 196-7.degree., 32.8.degree. (c 1.3, Me2CO), 75.2%, 221.degree., 52.8.degree. (c 1.44, O.1N NaOH); III Z analog, 84.5%, 126-8.degree., 17.4.degree. (c 1, CHCl3), sirup, -, -; IV bis(Z deriv.), 69.5%, 300-2.degree. (decompn.), -, 82%, 259.degree., -; V Z analog, 69.6%, 149.degree., 21.5.degree. (c 1.5, Me2CO), 90.5%o, 198.degree., 46.8.degree. (c 1, H2O). The IV bis(Z deriv.) was prepd. in C5H5N-Me2CO; this and the IV anilide were deacetylated by 24-hr. shaking with NaOMe at 25.degree.. III, prepd. in 670% yield from 7 g. III amide analog in 35 ml. HOAc satd. at 0.degree. with N2O3 and the mixt. shaken 4.5 hrs. at 25.degree., m. 138.degree., [.alpha.] D) 8.9.degree. (c 1.76, CHCl3). Reaction ot 0.5 g. I azide in 10 ml. EtOAc at 0.degree. with 0.5 ml. PhNH2 3 hrs. gave 69% anilide; V azide analog gave 73% V anilide analog. The azides and VI gave no products. Heating 3 g. V azide analog with 1.5 ml. PhCH2OH at 100.degree., concn, in vacuo, hydrogenation in EtOH over Pd-C 5-7 hrs. at 1 atm., concn. at 50.degree., heating the residue with 10% NaOH at 40.degree. 2 hrs. (NH3 evolved), and treatment with PhNHNH2 and aq. HOAc 1 hr. at 100.degree. gave 15% D-arabinose phenylosazone, m. 154-6.degree..

IT **97573-30-3**, Cellobionanilide, 4'-sulfamoyl-, octaacetate
107801-56-9, Cellobionanilide, octaacetate
(prepn. of)

RN 97573-30-3 HCAPLUS

CN Cellobionanilide, 4'-sulfamoyl-, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 107801-56-9 HCAPLUS
CN Cellobionanilide, octaacetate (7CI) (CA INDEX NAME)

Absolute stereochemistry.